



ARCHAEOLOGY

Spring 1955

VOLUME 8 NUMBER 1

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44 Francis Avenue

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ARCHAEOLOGY

A MAGAZINE DEALING WITH THE ANTIQUITY OF THE WORLD

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ARCHAEOLOGY is published quarterly in March, June, September and December at 73 Main Street, Brattleboro, Vermont, by the ARCHAEOLOGICAL INSTITUTE OF AMERICA, 608 Library Building, University of Cincinnati, Cincinnati 21, Ohio.

Entered as second class matter at the post office at Brattleboro, Vermont, on July 11, 1952, under the Act of August 24, 1912.

Subscription, \$5.00 per volume. Single numbers, \$1.25. Members of the ARCHAEOLOGICAL INSTITUTE OF AMERICA may choose ARCHAEOLOGY as a prerequisite of membership. Subscriptions should be addressed to the Business Manager at 608 Library Building, University of Cincinnati, Cincinnati 21, Ohio.

Manuscripts, communications, books for review, and advertisements should be sent to the Editor at 211 Jesse Hall, University of Missouri, Columbia, Missouri.

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Printed by The Vermont Printing Company, Brattleboro, Vermont.

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ROYAL TOMBS AT SAKKARA

By *Walter B. Emery*

UNTIL RECENTLY the main source of our knowledge of Egypt's archaic period was based on the discoveries of Petrie at Abydos, De Morgan at Negadeh and Quibell at Hierakonpolis, at the end of the last century, and although further finds of considerable interest were made at Tarkhan and Sakkara just prior to World War I, they were not followed up and nothing further of great importance concerning the period was discovered. Indeed there was a general impression that there was little more to be found relative to Egypt's first two dynasties.

In 1932, however, on the suggestion of Dr. George Reisner of Harvard, the late Cecil Firth, then Chief Inspector of Antiquities, re-opened Quibell's excavations in an area at the north end of Sakkara, overlooking the village of Abusir. Although this site was known to contain material of the first two dynasties, it had obviously been plundered and re-plundered to such an extent that its ravaged state discouraged systematic excavation. Firth's main objective was to obtain architectural information to assist Reisner in the publication of his monumental work on tomb development, and in



General view of the burial chamber and subterranean rooms.



General view of the west façade, with its recessed paneling, the enclosure wall and the trench of graves for sacrificed retainers. The superstructure of the tomb is all of mud brick.



Tomb 3504

Left: Plan of Tomb 3504, discovered in 1953. It is dated to the reign of King Uadji, third monarch of the First Dynasty, and may well be his actual burial place. In the center is the burial chamber, surrounded by magazines for storing the food and other things required by the pharaoh in the other world. Around three sides of the tomb are rows of small graves which contained the bodies of the king's retainers, sacrificed to serve him in the world of the dead. The monument has a total measurement of 61 x 32 meters.

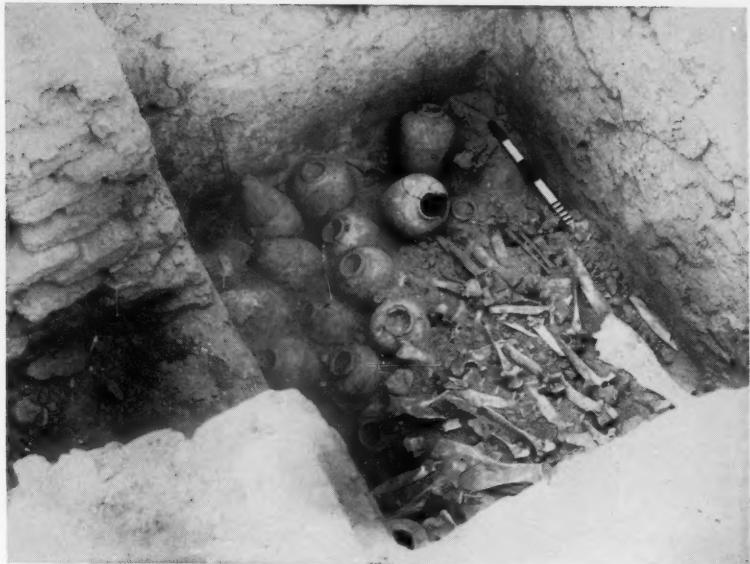
SAKKARA *continued*

The paneled façade of the bench on which are the bulls' heads modeled in clay with real horns. Although only parts of this feature are preserved, it has been calculated that in its original state the building was surrounded by more than three hundred of these heads.

Below: The bulls' head bench from above. A rather dramatic view looking down at the heads in one recess of the paneling.



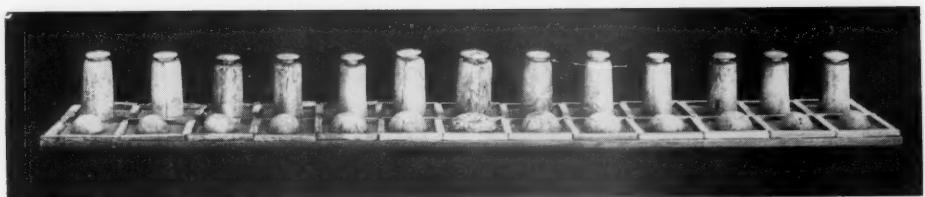
Tomb 3504



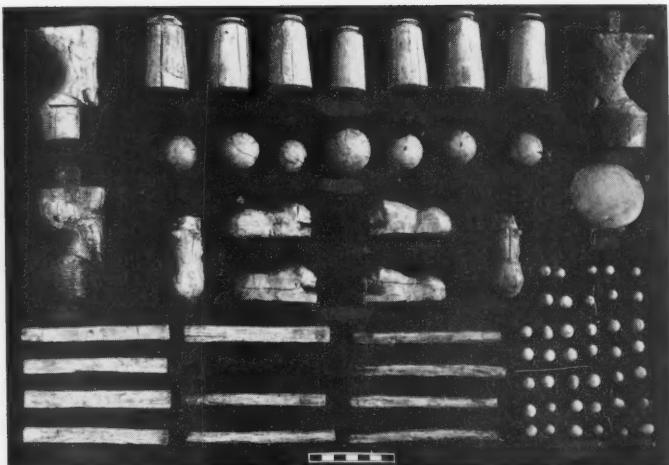
Above: One of the subterranean rooms containing bread jars and the remains of sides of beef—food for the owner of the tomb.

Left: A typical burial of a sacrificed retainer. There were sixty-two graves of this type built in trenches outside the main tomb.

SAKKARA *continued*



Ivory gaming pieces on a board made of wood inlaid with ivory, found in the grave of a sacrificed slave.



Ivory gaming pieces, dice sticks and counters. The "bulls' legs" belong to the wooden board, which had decayed.

Gaming piece of ivory. The head is carved to represent a lotus flower.



Tomb 3504

consequence he did not follow a systematic plan or excavate in any great detail.

After two seasons of work on the site, Firth died before his results could be published, and the area was once more neglected until 1935, when the writer was instructed by the Department of Antiquities to examine Firth's work with a view to its publication. The re-excavation of Tomb 3035, later identified as belonging to the Vizier Hemaka, yielded such startling and unexpected discoveries that the value of the site was at last appreciated, and it was decided that it should receive detailed attention. Systematic excavation started in 1936 and continued without interruption until the outbreak of World War II.

In this work we were amply repaid, and although only a comparatively small part of the necropolis was cleared, a series of great tombs of the First Dynasty was brought to light, each one adding considerably to our limited knowledge of this obscure period. Along the edge of the escarpment we completely cleared eighteen immense tombs, dated to the reigns of the Pharaohs Hor-Aha, Zer, Udumu and Adjib.

The outbreak of war in 1939 brought the excavations to a stop, and with the exception of the discovery of the tomb of Queen Meryet-Nit in 1946, the area was left untouched until 1953, when the Egypt Exploration Society, working on behalf of the Egyptian Government's Service of Antiquities, re-opened the excavations in an area adjacent to the previous work. The result was the discovery of a tomb far larger than any of the monuments of the earlier part of the First Dynasty yet discovered at Sakkara (Tomb 3504). Although the tomb had been repeatedly plundered and its burial chamber set on fire, it still remained rich in objects of considerable interest, and we were able to establish its date

as belonging to the reign of King Uadji, the third monarch of the First Dynasty. Apart from many new architectural features, one of the most astonishing discoveries was a bench built around the exterior of the superstructure on which was laid a series of bulls' heads made of clay with real horns.

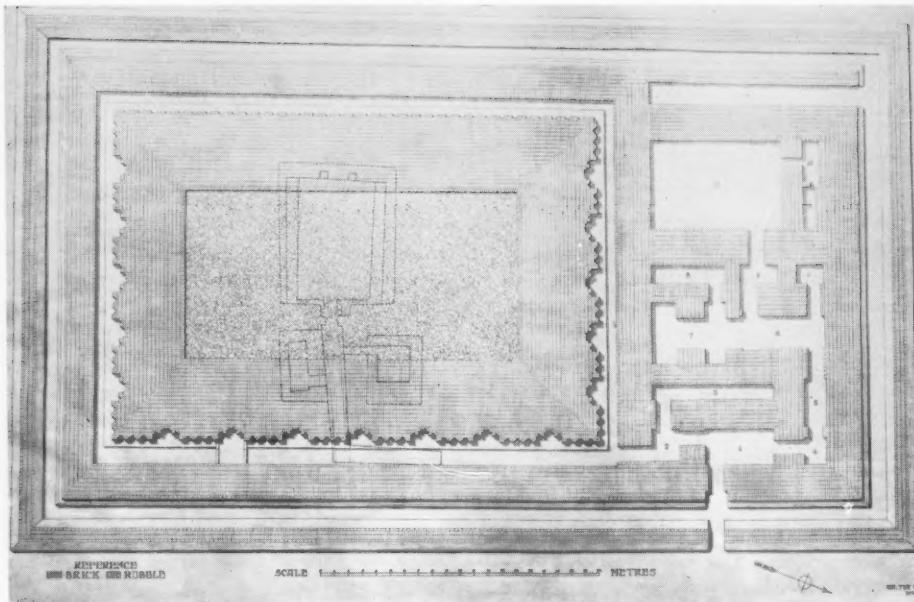
In the following year, the excavations resulted in the discovery of another tomb of even greater size (Tomb 3505), dating to the reign of King Ka-a, the last monarch of the dynasty. Although not so rich in objects, this monument presented us with new architectural information, for it formed the prototype of the pyramid complex of later periods. Moreover, parts of the exterior of the paneled superstructure were well preserved and retained, in astonishingly fresh condition, painted frescoes which are the earliest of their kind in existence.

With the discovery of these two tombs, we now have great funerary monuments at Sakkara dated to every reign of the First Dynasty with the exception of Semerkhet's, and the question arises as to whether these tombs are burial places of the kings of the First Dynasty, and those excavated by Petrie at Abydos in 1899 their cenotaphs. There is reason to suppose that it was customary for these early kings to have two tombs, one in the north and one in the south, in deference to the then comparatively recent unification of Upper and Lower Egypt under one monarchy. The Sakkara tombs are, in every case, far larger and more elaborate than their counterparts at Abydos, and the solution of this problem is one of the main reasons for the Egypt Exploration Society's work at Sakkara.

Apart from this, the excavations have shown that civilization at the dawn of Egypt's pharaonic period was far higher than we have hitherto supposed.

SAKKARA *continued*

Tomb 3505



Above: Plan of Tomb 3505, which has a total measurement of 65 x 37 meters. Its general design is the prototype of the pyramid complex of later times with the funerary temple on the north side of the tomb. It is dated to the reign of King Ka-a, the last monarch of the dynasty.

Right: Frescoes on the paneled façade of the tomb. The pattern design is executed in red, blue, yellow, black and white. These wall decorations, more than five thousand years old, are the earliest of their kind yet found.





Above: The descent to the burial chamber, with the paneled façade of the superstructure above it.



Above right: The northeast corner of the tomb, showing the paneled façade on which were found the painted frescoes.



Right: The double enclosure walls and corridor which surround both the tomb and temple. The walls and pavement were originally faced with a thick gypsum plaster painted white.



Frescoes in red, blue, yellow, black and white. In parts they are so well preserved that the preliminary guiding lines and the proportion square of the draughtsman are discernible.

CLASSICAL COLLECTIONS IN BRITISH COUNTRY HOUSES

By Cornelius C. Vermeule

Assistant Professor of Greek and Roman Art
University of Michigan

THE PRESENT DAY visitor to Great Britain usually seeks his classical antiquities in London's British Museum. He sometimes includes the Ashmolean Museum at Oxford or the Fitzwilliam Museum at Cambridge in his itinerary, but the treasures in country houses open to the public are frequently overlooked. For the lovers of Greek and Roman art—from colossal sculpture to painted vases—who make the very little effort to include British private collections in their European tour a quite unexpected reward lies waiting. In no other country in the world, not even in Italy, can so many major collections be visited in settings where actually dwell the descendants of those by whom the collections were formed, in surroundings which recall the grandeur of another age amid the realities of a modern industrial civilization. To those who weary of tramping the cold halls of great continental museums from Paris to Naples or of finding their sculpture only in the *palazzi* and public parks of Italy, a tour of collections in the British Isles offers a contrast in setting and atmosphere with, in many cases, no lessening of quality in the Greek and Roman sculptures which

are displayed. The modern era of crippling estate taxes and a diminishing of means to maintain establishments on a grand scale has seen the liquidation of several major British collections, but a number of the largest not only still remain but are now open to the public at certain times in the year.

It is only relatively recently that so many great private collections have been open to the public. To be sure, in the years between the seventies of the last century, when Adolf Michaelis, professor in the University of Strassburg, was collecting material for his monumental *Ancient Marbles in Great Britain*, and the last ten years, scholars armed with the proper credentials could visit most of the major British collections. In several instances, however, not even the world's foremost art historians were allowed full facilities to study the treasures of outstanding collections. At the turn of the present century, all the influence which Mrs. Eugénie Strong, an eminent authority on classical sculpture, could muster was barely enough to permit the great archaeologist Adolf Furtwängler and herself brief access to the celebrated collec-

tion of Thomas Hope, which had been moved in the nineteenth century and practically forgotten in a country home of the Dukes of Newcastle at Deepdene in Surrey, hardly an hour from London. Mrs. Strong was absolutely refused permission to reproduce the Hope head of the "Faun" of Praxiteles in her English edition of Furtwängler's *Masterpieces of Greek Sculpture*. All this was changed when the Hope marbles and vases were auctioned in a memorable sale conducted by the firm of Christie's in London near the close of the first World War. The Hope collection is now scattered throughout the museums and private collections of the Old and New Worlds.

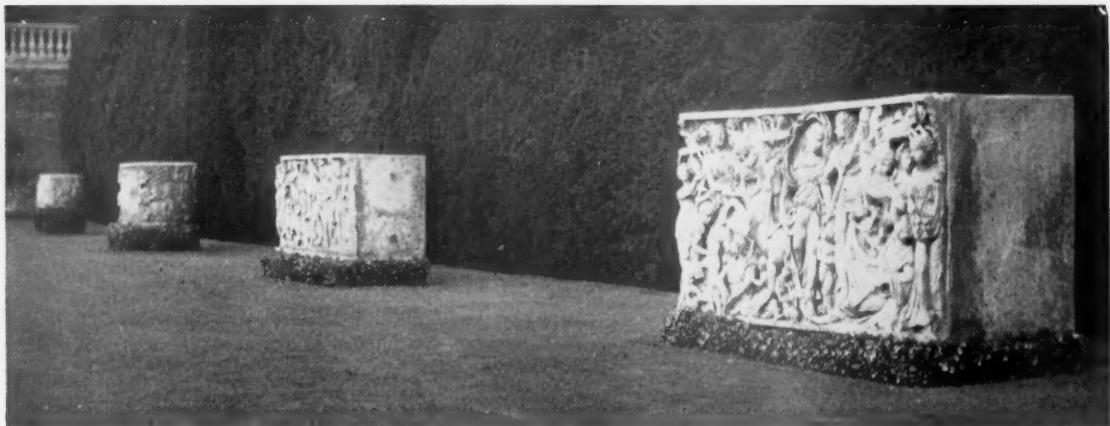
On the other hand, the Duke of Devonshire through the agency of Mrs. Strong was foresighted in securing Dr. Furtwängler's services to publish notes on some of the many classical antiquities at Chatsworth. The visitor to this rival to Versailles will encounter statues, busts and a whole small museum of Greek and Roman objects of all sorts which are unknown to scientific archaeology. This writer was amazed to find such items as a colossal head of Hadrian's favorite,

Antinous, in the Stag Room of the palace—a head which appears nowhere in essays on masterpieces of Roman second century art. It is to Mrs. Strong, a zealous publicist of the classical treasures of her native land, that we owe our knowledge of the three outstanding Attic grave reliefs at Lord Newton's former home, Lyme Park; of Lord Melchett's collection, now mostly dispersed; and of the antiquities which formerly graced the Cook collection at Doughty House, Richmond. Many choice marbles from this last collection are now divided between the British Museum and the Ashmolean Museum at Oxford. The former possesses the Cook Sidamara sarcophagus which Josef Strzygowski used as the starting point for his disquisitions on the character of late Roman art. The Ashmolean Museum now displays the statue of Apollo, an oft-published Cook statue after a fourth century B.C. Greek original perhaps by Euphranor of Corinth, other Cook sarcophagi and decorative reliefs, and the outstanding bust of Lucius Verus from that collection.

Among the private collections thoroughly catalogued and well displayed none can rival Ince Blundell



VIEW OF SCULPTURES IN THE LONG GALLERY AT HOLKHAM HALL, NORFOLK. In the niche at the right may be seen the statue of the youthful Meleager and a Roman head of the period of Nerva (A.D. 96-98) adorns the near end of the mantel. The rope in the foreground directs the numerous visitors to the Hall on the afternoons when the house and garden are open to the public.



ROMAN SARCOPHAGI ON THE FRONT LAWN AT CLIVEDEN. Eight magnificent Roman sarcophagi flank the driveway at Cliveden, scarcely an hour's drive from London. A link with the United States is provided, since these were purchased out of collections in Rome, Frascati and Florence by the first Viscount Astor. They reached the country seat of this well known Anglo-American family toward the close of the last century.

Hall near Liverpool. The traditional pride of the Weld Blundell family in their vast assemblage of marbles bought in Rome and London in the era of Napoleon is manifest in the illustrated catalogue, a model of its kind, which Mr. Bernard Ashmole of the British Museum prepared a number of years ago as a complement to Michaelis' own full word-pictures of the Blundell antiquities. In the Pantheon at Ince are copies of celebrated Greek originals, reliefs and urns from the Villa Mattei in Rome, sarcophagi and architectural fragments, and an outstanding assemblage of Greek and Roman portraits.

Another collection which the student of archaeology and the lover of traditional setting can ill afford to miss is that at Petworth House in

Sussex, an easy day's excursion from London. The fame of the Leconfield Aphrodite alone, a head ascribed by many to the hand of Praxiteles himself, is enough to warrant a visit to the Wyndham collection, preserved in architectural splendor for the British nation through the National Trust and the generosity of the late Lord Leconfield. Besides the Aphrodite, the visitor will find a large gallery filled with famed statuary—the Apollo Egremont, a Mattei-type Amazon, the Petworth oil-pourer, a Praxitelean satyr pouring wine, Attic reliefs, South Italian vases, even a well known Greek inscription. On the walls are portraits of the families whose names are linked with the collection's formation and preservation. In fact it is to a member of the fam-

ily, the Hon. Margaret Wyndham, that we owe a fully illustrated catalogue of her ancestral sculptures, prepared with the aid of the British Museum shortly before the beginning of the first World War.

We are prone to think of field work in archaeology purely as the uncovering of new material with pick and shovel. Those who have seen what the museum storerooms of Italy and Greece have yielded in the past generation know that field work in archaeology can often assume the form of a second "excavation" of material discovered and forgotten in a previous age. Such is the case with the "discovery" of an entire country house filled with unrecorded classical sculptures, within an easy hour's drive from London's West End. We have

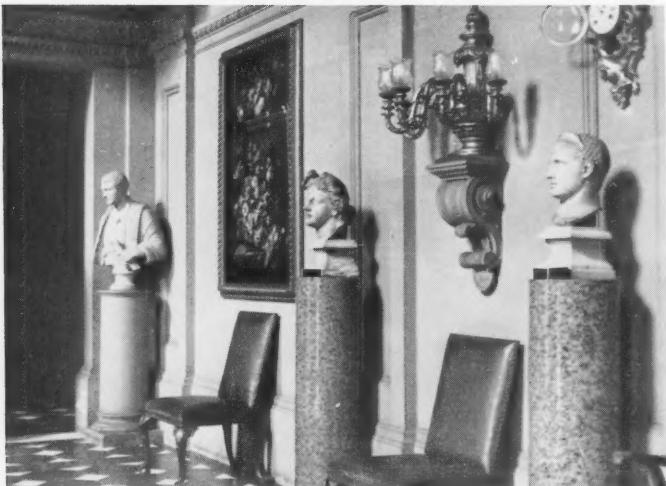
Right: APHRODITE IN A LONDON GARDEN. In the garden of a London antiquarian is to be found this group of Aphrodite crouching in the bath attended by Eros. This variant of a type created about the middle of the third century B.C. was brought from Rome in the eighteenth century and at one time was part of the famous Sir Francis Cook Collection at Doughty House, Richmond.



Below: THE CLASSICAL MARBLES IN THE SCULPTURE GALLERY AT THE FITZWILLIAM MUSEUM IN CAMBRIDGE. Amid grave reliefs from Cyprus and Athens the colossal caryatid-like figure from a vanished temple at Eleusis is visible at the right. Besides marble sculptures, these rooms display a fine collection of bronzes, vases and Greek coins.



BRITISH COUNTRY HOUSES *continued*



GREEK HEADS AND A ROMAN BUST IN THE PAINTED HALL AT CHATSWORTH, DERBYSHIRE. In the center is a head of Dionysus going back to a Praxitelean creation, and at the right is a head of Hermes copied after an earlier fourth century B.C. original in the style of Myron. The splendid half-figure bust of a young man with a scroll, on the left, is Roman work of the third century A.D. The antiquities at Chatsworth House are but a fraction of the treasures accumulated by ancestors of the Duke of Devonshire during more than three centuries of collecting.

Top: THE CHATSWORTH BRONZE HEAD OF APOLLO. This hollow-cast head is what survives of a cult-statue of the god said to have come from a sanctuary at Tamassos in Cyprus. The sixth Duke of Devonshire purchased the masterpiece over a century ago from a British antiquarian residing in Smyrna. It is generally dated between 470 and 460 B.C.

casual mention by the elder Visconti, in Michaelis and elsewhere, that the family of the Earls of Darnley were purchasers of antiquities from the Villa Massimi-Negrone-Montalto and other well known late eighteenth century Roman collections. Other sculptures were merely listed as "no longer in Rome, now in England," by Visconti, Cavaceppi, the antiquarian restorer and purveyor of statuary, and others connected with the migration of antiquities from Italy to England. When in his search for Greek and Roman sculptures in British private collections the writer finally reached Cobham Hall in Kent, home of the Earl of Darnley, he was rewarded by rediscovery of at least a half dozen important sculptures "lost" since their transport to the British Isles a century and a half ago. Portrait busts of Antoninus Pius and Hadrian, a heroic statue of the latter, the pendant to a famous *trapezophorus* or enriched table-support in the Vatican, a Roman table fountain in the form of a miniature temple of the Isiac divinities with a figure of the reclining Nile in the center, and a charming Roman statue group of an Eros frightening another with a mask are but some of the items of interest which greet the visitor to Cobham Hall. Another example of a historic country estate, only twenty-nine miles from London, in which little-known ancient sculptures are to be found is Sutton Place, near Guildford in Surrey. In the era of Michaelis, the Duke of Sutherland, who resided at Sutton Place, possessed also a London town house and several other estates scattered throughout England and Scotland in which Greek and Roman antiquities were to be found. The mar-

bles in the possession of the present Duke include items seen by Waagen before the middle of the nineteenth century at Stafford House in London.

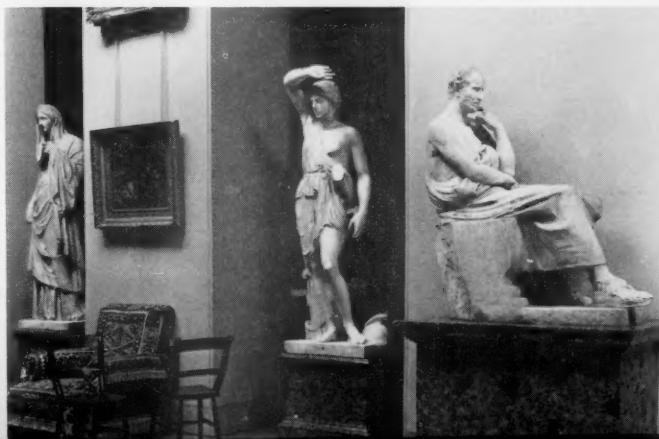
If the visitor cannot afford time for an extended tour to such showplaces as Castle Howard and Newby Hall in Yorkshire, Holkham Hall in Norfolk, or Wilton House near Salisbury, the London buses or Underground system can convey him to Syon House, home of the Dukes of Northumberland, situated on the bend of the Thames opposite Richmond. There he will see what the late Dr. Frederik Poulsen "discovered" and published in his *Greek and Roman Portraits in English Country Houses* (1923)—ancient sculptures in the gilded, painted splendor of Robert Adam's pure Neo-classic interior decoration. At Osterley Park, not far from Syon House and now administered by the Victoria and Albert Museum, little-known antique sculptures grace another hall decorated in the Adam manner. The outstanding pieces are a torso of the Polykleitan "Narcissus" type and a mended but entirely antique statue of the vine-wreathed young Herakles.

The visitor to the recently opened Wellington Museum in Apsley House at Hyde Park Corner will find the often illustrated Mattei bust of Cicero set at the head of the main staircase. The London Museum in Kensington Palace bordering Kensington Gardens on the side opposite Apsley House contains several choice Graeco-Roman antiquities imported to London in ancient times and an East Greek grave stele dug up in Drury Lane but probably one of the Arundel House marbles scattered about the area nearly three centuries ago. Remembering



STATUARY, BUSTS, URNS AND FURNITURE IN ROBERT ADAM'S SCULPTURE GALLERY AT NEWBY HALL, YORKSHIRE. The collection at Newby is one of the best-kept and most tastefully displayed in England. In this view we see sculpture amid supports, wall-brackets and heating ventilators, all designed in the Neo-classic taste.

THE STATUE GALLERY AT PETWORTH HOUSE IN SUSSEX. In this corner of the gallery, amid pictures and furniture, we see the Leconfield replica of the Mattei-type Amazon usually attributed to Pheidias, a seated Greek philosopher with a head resembling Demosthenes and a commemorative statue of a Roman lady.



BRITISH COUNTRY HOUSES *continued*



Left: A CORNER OF THE STAIRWELL AT THE VISITORS' ENTRANCE, CASTLE HOWARD, YORKSHIRE. Amid cinerary urns and vases can be seen Renaissance and Roman busts and a colossal mask of Hermes or Dionysus in the archaic style in the center.

Below: A CORRIDOR AT CASTLE HOWARD, YORKSHIRE. Cinerary urns, Roman portraits and copies of Greek sculptures line this hall in the massive edifice designed 1699-1726 by Vanbrugh, architect of Blenheim Palace, for the family of the Earls of Carlisle. This eighteenth century scene captures the essence of the grand era of British collecting. The collection at Castle Howard is the oldest after those at Oxford and Wilton House.



Left: THE SCULPTURE GALLERY AT WOBURN ABBEY. A view of some of the many treasures in the Duke of Bedford's collection. The early nineteenth century gallery has recently been thoroughly renovated, and this view shows the marbles before final rearrangement. Among several Neo-classic works, the Attic stele of a girl and the bust of Ptolemy II of Mauretania stand out in the foreground.

the Victoria and Albert Museum for its splendid display of Renaissance decorative art, for its period rooms and records of costume fashions or for the Raphael cartoons, we often forget that a small but choice collection of later antique and Byzantine art is to be found in the galleries of this museum. While London does not offer antiquarian rivals to the Villa Borghese park or the Boboli gardens, those who have walked the grounds of the Villa Mattei as they are today will find in the gardens and orangery of Holland Park when they are reopened to the public a strong breath of country house antiquarian taste in the heart of a crowded and thriving metropolis.

In most modern museums today the emphasis is on the setting of the objects displayed as much as the objects themselves. The British country house which exhibits a major classical collection meets all the demands of quality as well as the authentic perfection of background in which to study or merely enjoy famous works of Greek and Roman art.

COLLECTIONS OPEN TO VISITORS

Historic country houses in Great Britain open to the public, which contain important collections of Greek and Roman sculpture (and in several cases other antiquities).

Accessible on a day trip by bus, rail, or motor from London are:

Cliveden, near Taplow (Buckinghamshire)
Cobham Hall, Cobham (Kent)
Knole, Sevenoaks (Kent)
Petworth House, Petworth (Sussex)
Syon House, Brentford (Middlesex)
Wilton House, Wilton, near Salisbury (Wiltshire)
(In this group would also be included the two University collections, in the Ashmolean Museum at Oxford and the Fitzwilliam at Cambridge.)

The following are farther from London but are in all cases near other major centers:

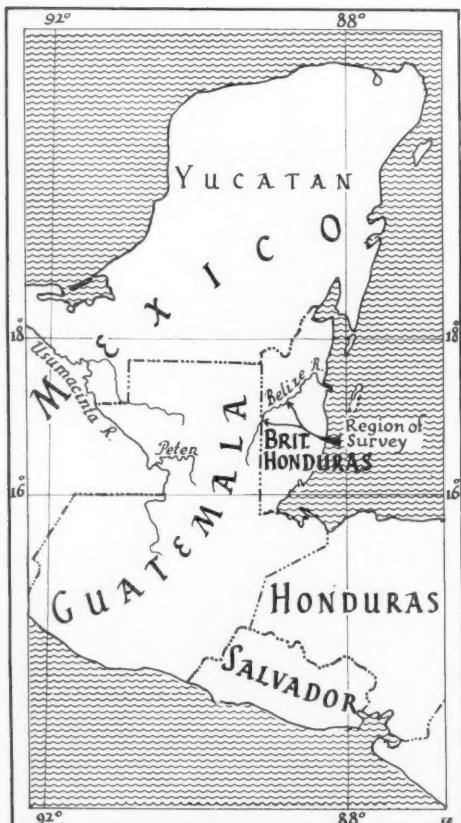
Chatsworth, Bakewell (Derbyshire)
Holkham Hall, Wells and Holkham (Norfolk)
Castle Howard, Malton (Yorkshire), an easy day trip from York
Newby Hall, Skelton (Yorkshire), a day trip from York and off the direct road to Scotland
Ince Blundell Hall, Formby (Lancashire), near Liverpool
Lyme Park, Disley (Cheshire), near Stockport, Manchester, and Sheffield

All the above are open certain days of the week from April to October. Exact dates and times, directions for every means of transport, and in several cases illustrated historical booklets may be obtained from any office of the British Travel and Holidays Association in the United Kingdom or its equivalent in this country.

• DR. GORDON WILLEY is Bowditch Professor of Archaeology at Harvard University. WILLIAM BULLARD, JR. and JOHN B. GLASS are graduate students in the Harvard Department of Anthropology. They recently completed the first season of a study of prehistoric Maya settlement patterns in British Honduras.

THE MAYA COMMUNITY OF PREHISTORIC TIMES

By Gordon R. Willey, William R. Bullard, Jr. and John B. Glass

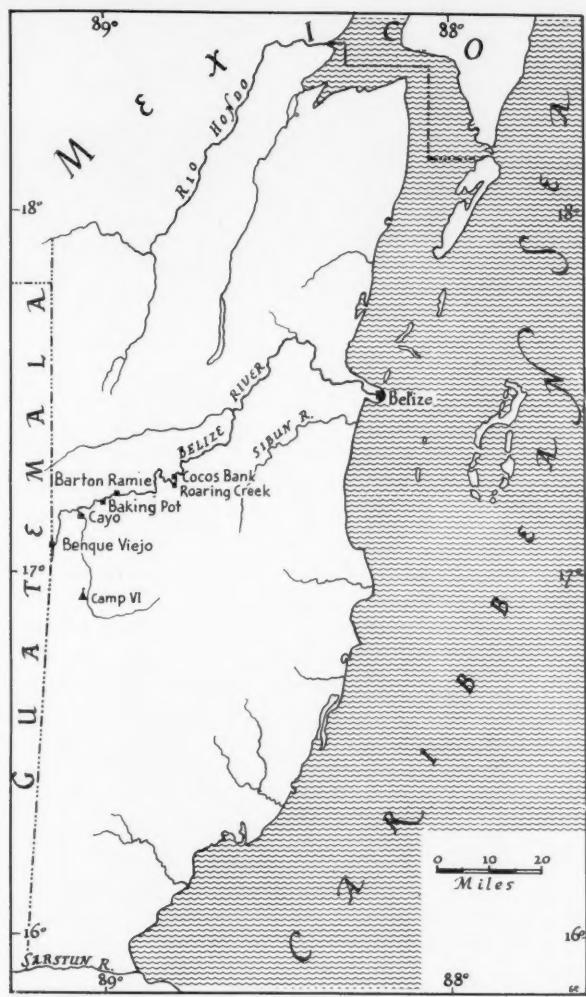


1 Map of that portion of Central America which was chiefly Maya in prehistoric times (exclusive of eastern Honduras and eastern Salvador). Note the location of British Honduras and the Belize River.

ONE of the most interesting questions for the Middle American archaeologist concerns the nature of the prehistoric Maya community. Of what did the "complete community" consist? By "complete community" we mean those segments of ancient Maya society that were self-sufficient economically, self-contained socially, and politically and religiously independent. It is inevitable that such units existed; it is equally inevitable that they were not static entities but were subject to constant changes and realignments through time. We have little knowledge, however, of their make-up and structure at any period.

It is our belief that the most direct line of approach to this problem lies in the study and interpretation of settlement patterns as these can be traced from archaeological evidence. For in settlement remains we hold a key to many of the non-material aspects of any prehistoric society. Technology, economic adjustment to an environment, and many of the social and cultural institutions—at least in their broader outlines—are reflected in the manner in which man disposed himself over the earth on which he lived.

Maya civilization had its origins in the early agricultural traditions of the lowland jungles of the Usumacinta drainage of Mexico and Guatemala, the Guatemalan Petén, and British Honduras (Figure 1). These traditions probably date back as far as 1000 B.C. if not earlier. During the centuries of the Formative period there is evidence of population growth and of gradual cultural enrichment. Around A.D. 300 the Maya Classic period blossomed forth in its unique and characteristic forms. The great art and architectural styles and the brilliant



2

Map of British Honduras with archaeological sites and other locations on the Belize River.

3

Like waves on the sea the small house mounds at the Barton Ramie site follow one after another along the second and third alluvial terraces of the Belize River. Over two hundred of these little mounds were located within an area of a square mile.



MAYA COMMUNITY *continued*

4

The BR-1 mound at Barton Ramie, British Honduras, at the start of excavations.



intellectual achievements of the calendar and hieroglyphic system were conceived and maintained for six hundred years. After A.D. 900 there was an abrupt slackening in these accomplishments, and within a hundred years they had ceased altogether. The Classic period "cities," or ceremonial centers, of the south were abandoned never to be reoccupied. Some of the Maya vigor was sustained in northern Yucatan where it fused with Toltec influence, but the old Classic pattern of life had disappeared forever.

The reasons for this rapid collapse of one of the great civilizations of native America remain a mystery. A number of fascinating hypotheses have been advanced to explain it, and the most promising of these involve factors of land utilization, soil exhaustion, demographic crises and social and political upheavals. No one theory, nor any *pastiche* of theories, is satisfactory because none is adequately verified by archaeological findings. The most crucial gap in archaeological knowledge is the lack of settlement data. As an example, the question of whether the ancient Maya farmed "intensively," year after year in the same fields, or by a *milpa* system, that is, constant clearing and rotating of the jungle plots, cannot be resolved until we know how many people lived in any region at a given time. Yields-per-acre of maize and persons-per-yield computations are of value as supplementary evidence but are more or less meaningless until we can actually count houses and define community sizes. The speculation that the failure of Classic Maya was the result of growing population pressures cannot be demonstrated until we know the population trends during the six hundred year span of the Classic. It is true that there are more Late than Early Classic ceremonial centers, but this could be the result of changes in the politico-religious structure of society rather than a population increase. The possibility that social revolution

brought down the Maya civilization should be investigated, but such research is difficult unless we know something about the design of the ancient Maya political fabric. This brings us once again to the problem of the Maya "complete community."

It is clear that some of these questions can be answered only on a very broad geographic scale. At the same time a beginning must be made, and for practical reasons such a beginning must be confined to a limited sector. The Harvard University Peabody Museum expedition into the Belize Valley in British Honduras in 1954 was an attempt to initiate Maya settlement pattern investigation.

The Belize River cuts northeastward across the colony of British Honduras to empty into the Caribbean (Figure 2). For about thirty airline miles after it leaves the Guatemalan frontier it flows through the jungle-covered, limestone hill country once densely settled by the Pre-Columbian Maya. Between Benque Viejo, on the Guatemalan border, and Roaring Creek, on the east, there are great numbers of ruin mounds. Most of these are small structures of a size and shape to suggest that they are the former platforms of ordinary dwellings. Large "temple" and "palace" type mounds are also found in the region, but it was these small tumuli that attracted our attention. It was noted that most of these small mounds were grouped close to the river in the flat bottom lands. This suggested that certain natural environmental limits might be set for our settlement survey. In selecting the Belize Valley, it was also noted that the region lies no more than fifty miles to the east of such Peten centers of the Classic Maya as Tikal and Uaxactun. As Eric Thompson's work at Benque Viejo has shown, the prehistory of the Belize Valley in western British Honduras is closely re-

lated to that of the Peten. In the light of this it was to be expected that our findings in the same valley could be readily cross-referenced to the archaeological sequences established in the west. A second consideration that led to our choice of region was the circumstance of the large modern land clearings in the Belize Valley. Small mounds are next to impossible to locate in dense jungle. Months of cutting and clearing are necessary to lay bare sizable tracts of land. This had already been done for us by large-scale farming in many places in the Belize Valley bottoms.

Our efforts in 1954 were concentrated upon the Barton Ramie estate which lies half way between the Guatemalan border and the town of Roaring Creek (see Figure 2). It is located on the north bank of the Belize River in a wide area of flat alluvial terraces. About one square mile of land had been cleared by the estate workers in 1954, and this clearing comprised a little more than half of the total alluvial bottom, or "alluvial pocket," in which the estate was situated. Other properties, such as Spanish Lookout and Floral Park, are also located within this same "pocket" or widening of the river bottoms. Within the clearing of the Barton Ramie estate alone, we located and mapped 235 small house-type mounds (Figure 3). Additional mounds at Spanish Lookout and Floral Park are immediately adjacent to the Barton Ramie group and these may be included in the same large settlement unit or site. A total of 350 mounds seems a conservative estimate for the entire pocket.

Our surveys did not thoroughly explore the limestone hill slopes which border the Barton Ramie alluvial pocket on each side of the river. We know that there are a few mounds on these slopes, but they do not appear to be as numerous as in the bottom lands. It is probable that the Barton Ramie population was concentrated within the natural limits set by the size and shape of the alluvial terraces with only a minor overflow onto the surrounding hills. The site seems to have been separated from other similar alluvial terrace sites along the river by the narrowing of the valley bottom lands both above and below Barton Ramie. Groups of mounds similar to those at Barton Ramie were found all the way from the Cocos Bank site near Roaring Creek, fifteen miles east of Barton Ramie, to Baking Pot, three miles to the west. Some of these groups are probably as large as or larger than the Barton Ramie site; others consist of no more than two or three mounds. The number of mounds in a group, or site, seems to be related directly to the size of the alluvial pocket in which they are situated.

In our first field season we had three principal objectives. First, we wanted to explore intensively one of the typical small mounds at Barton Ramie. What was its

nature? Was it, indeed, a domestic house mound? Second, we intended to sample a number of other mounds in the group in order to obtain ceramic samples for relative dating. As one of the main purposes of the settlement pattern study was to obtain information upon changes in population size and grouping through time, it was necessary to know to what archaeological periods and sub-periods the various mounds belonged. Third, we were most anxious to have a detailed map of the Barton Ramie site. No large domestic site of Classic Maya times has ever been so mapped.

The mound we selected for excavation, designated as BR-1 in the survey, was of average size and shape for the Barton Ramie group. Circular in surface outline, it measured thirty meters in diameter and rose two meters above the surrounding alluvial plain (Figure 4). It was rounded in cross-section with a slightly flattened top. Prior to excavation no stones were visible on the surface. Beginning with exploratory trenches, the mound was eventually peeled down in its center portion, and a series of superimposed rock and plaster platforms was disclosed. A total of ten occupational levels could be discerned. The earliest of these was represented by refuse of the Proto-Classic period. The second level from the bottom was marked by a circular stone foundation with a small rectangular attached platform on the east side of the circle (Figure 5). This circular foundation dates from the beginning of the Early Classic, a sub-period corresponding to the Maya Tzakol 1 phase at Uaxactun.

5

The circular stone foundation belonging to the second occupation level of the BR-1 mound, Barton Ramie. About fifty centimeters of living refuse underlies the foundation and represents an earlier occupation. The circular foundation dates from the beginning of the Maya Early Classic period (ca. A.D. 300).



MAYA COMMUNITY *continued*



6 The rectangular stone-faced platform of the eighth occupation level, BR-1 mound, Barton Ramie. This platform had a retaining wall made up of small, partially shaped limestone blocks which were fitted together without lime mortar. The body of the platform was largely earth and refuse fill. It had been floored with gravel and lime plaster. The platform faced south and the stairs in the center of the photograph led down to a gravel-plaster terrace. The top of the platform was originally at the height of the top of the stairs, but subsequent masonry construction of the ninth occupation level carried the front wall above this. Note the difference in the nature of the masonry.

Subsequent occupational levels were defined by plaster and gravel floors, ash and fire pits, and rectangular stone-faced platforms. One of the best preserved of these platforms was the structure associated with level 8. Rectangular in outline, retained with stone masonry walls of small limestone blocks, it was composed of earth, refuse and rock fill, and floored with plaster (Figure 6). A small stair on the south side led down to a plaster and gravel terrace floor. This structure appears to date from the middle of the Maya Late Classic period, a phase equated with the Uaxactun Tepeu 2 and the Benque Viejo IIIb sub-periods.

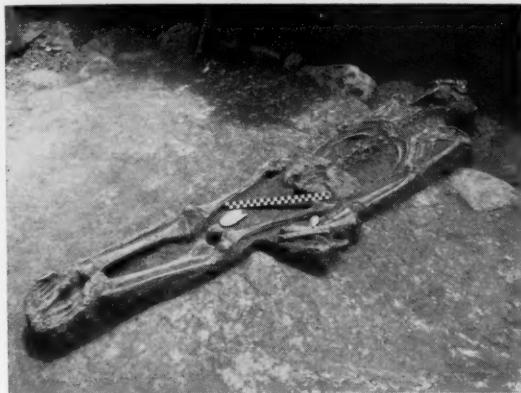
A number of burials were found in the refuse and fill between the various structural levels. The majority appeared to be later than the rectangular platform of level 8, but a few are earlier. Most of them were extended, in either a prone (Figure 7) or supine (Figure 8) position, the heads all at the south. Three burials were in a seated position.

Ceramic refuse was abundant at all depths in the BR-1 mound, on floors and in debris between floors. It

was also scattered through the refuse and clay fill that was piled up around the edges of the successive platforms. In addition to potsherds, there were numerous fragments of stone *manos* and *metates* (mealing stones) in the refuse as well as flint and obsidian scrap and broken tools. Pottery vessels and other artifacts were found with some but not all of the burials. None of these objects were elaborate or of particularly fine quality by Maya Classic standards.

From these excavations it was concluded that the BR-1 mound was a domestic site. Living refuse was found on the old ground surface underlying the structures and was associated with the various structural levels. The presence of simple culinary wares, of mealing stone fragments and other stone tools, and of fire pits supports this interpretation. The various stone-faced and plaster-floored platforms had been constructed for buildings of a perishable sort, presumably the pole and thatch houses so characteristic of the Maya down to present times (Figure 9). The efficient but humble architecture of these platforms is further testimony to

7 Prone burial from the BR-1, Barton Ramie mound. This skeleton was found on top of the gravel and plaster terrace which can be seen in the foreground of Figure 6. In this location the burial clearly dates later than the structure of occupation level 8 and is, therefore, Maya Late Classic. Simple shell ornaments accompanied the burial.



8 Supine burial from the BR-1, Barton Ramie mound.

9 Modern houses on a prehistoric Maya house mound near Barton Ramie. These pole and thatch houses are probably much like the ancient houses which stood on mounds such as these some fifteen hundred years ago.



their use as pediments for ordinary dwellings. The presence of burials in the mound does not negate this conclusion. Casual burial within or near the living site is consistent with Maya practices as revealed by archaeology. It is also possible that many of the burials placed in BR-1 were made after the mound had been deserted as a house location. If so, no great time elapsed between the abandonment of the mound platforms and the interments, as the terminal refuse pottery and that with some of the burials date from the same phase of the Late Classic.

The conclusion that the BR-1 mound had been a former domestic site was extended by test diggings in twelve other mounds in the Barton Ramie group. Eleven of these were of a size and shape similar to BR-1. They were located in all parts of the site, in some instances separated from each other by as much as two kilometers. In each case we excavated a three-by-two-meter test pit into the slope of the mound. By analogy with BR-1, it was reckoned that in this way we would obtain a full stratigraphic run of the rubbish of each mound but

would avoid cutting through the actual stone and plaster covered platforms of the mound center. This proved to be the case, and only in mound BR-20, where the test pit was slightly high on the mound shoulder, did we cut through architectural features (Figure 10). The test cuts varied in depth from about two to four meters. At most of the mounds, as was the case with mound BR-1, it was noted that the surrounding alluvial flats were one to one and a half meters higher than the original surfaces upon which the earliest refuse had been deposited or the earliest structures built. In other words, the alluvial plain today is a meter or more higher than it was at the beginning of the Maya Classic. This is the result of flooding of the terraces. Such occasional floods are known today, but they are not annual events.

One other mound was tested. This was a rectangular platform, about fifty meters in diameter and four meters high. It is one of seven such mounds at Barton Ramie. Mounds of this type are surmounted by low platforms arranged to form little raised courtyards enclosed on three sides. The refuse and soil conditions in

MAYA COMMUNITY *continued*

the flank of this mound proved similar to those in BR-1 and the other smaller mounds.

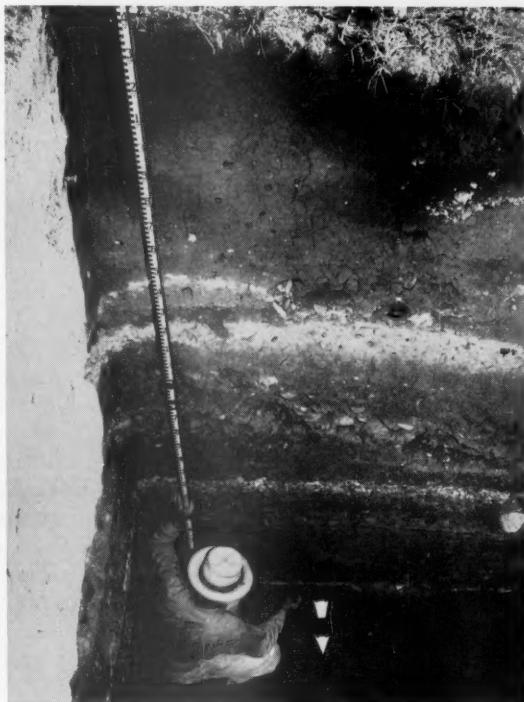
All test excavations yielded abundant pottery refuse similar to that found in BR-1. In three of the mounds the earliest pottery found can be placed in the Late Formative and Proto-Classic periods. These three, plus three others, also showed Maya Early Classic refuse. All twelve mounds, as well as BR-1, revealed Late Classic pottery in the upper levels. Although our thirteen excavated mounds form too small a sample of those in the Barton Ramie pocket to base any final conclusions upon, the results would suggest that there was a population increase throughout the Maya Classic period.

In general, the distribution of the house mounds over the Barton Ramie site is haphazard and without plan. As stated, most of the mounds are small tumuli; however, there are also the seven larger platform mounds. These do not seem to be grouped in any one particular locality, but occur in various parts of the area, each surrounded by smaller mounds. Near the eastern end of the site there is a small "ceremonial center." This "center" consists of a pyramid (Figure 11) twelve meters in height and two long, low mounds of a type sometimes called "palace" mounds. These three structures are arranged around a small raised courtyard. This unit would appear to be some kind of special precinct or politico-religious center for the Barton Ramie site. There is another small "ceremonial" unit at Floral Park, on the south side of the river, a kilometer or more to the southeast of the Barton Ramie pyramid. These Floral Park mounds are situated upon a low hill overlooking the Barton Ramie pocket rather than within it. They, too, may have been ceremonial constructions related to the Barton Ramie cluster of house mounds. Similarly, at Spanish Lookout, at the extreme western end of the Barton Ramie site, there is another big mound of pyramid type which may represent a third ceremonial structure.

The major problems of Maya settlement are still before us, and, in addition, we have raised new questions. Nevertheless, we have brought to light information which is extremely interesting and have suggested answers to some of the questions. Of primary value, in our opinion, is the location, description and mapping of the Barton Ramie site with its clusters of small house mounds. In an alluvial pocket of slightly less than two square miles are an estimated 350 domiciliary mound structures. Excavation in a sampling of these mounds

indicates that they were used as domestic sites. There is also some evidence for a gradual build-up of population at the site from the Late Formative through the Classic periods. Of note is the complete absence of any pottery or other artifacts which could be dated as Post-Classic (after A.D. 1000). Thus the evidence of the domestic sites reinforces that of the ceremonial centers. Western British Honduras was deserted at the close of the Classic period, and this desertion was apparently complete, not just an abandonment of the great temples and palaces.

In addition to Barton Ramie there are other alluvial terrace sites along the Belize River which appear to be similar communities of dwellings. We have mentioned the Baking Pot site in the next alluvial pocket of the



10 Excavation wall of the test excavation in the BR-20 mound, Barton Ramie. In this test the edges of several superimposed plaster and gravel floors have been cut through. Quite probably the main platform constructions lie a few meters back from this profile. This stratigraphic test yielded pottery refuse from Late Formative (B.C.) to Maya Late Classic (A.D. 900) times.

river, three miles west. Only a very small portion of this pocket has been cleared of jungle, but thirty house mounds were counted within an area two hundred meters square. Inasmuch as the total size of the Baking Pot alluvial bottoms, as indicated on the topographic maps, is larger than those at Barton Ramie pocket, it is quite possible that the Baking Pot cluster of mounds is the larger of the two. There are two ceremonial units within the Baking Pot site. East from Barton Ramie we have recorded several small house mound clusters along the river, ranging anywhere from two or three up to twenty or thirty mounds. Near Roaring Creek, at Cocos Bank, there is another big house mound group, comparable in size to Barton Ramie or Baking Pot. The Cocos Bank site also includes a ceremonial center.

In sum, it would appear that Classic Maya living sites in the Belize Valley were located upon the alluvial terraces of the river flats and that they occurred in clusters of from several hundred down to a very few mounds. The larger sites contain within them certain large mounds and mound arrangements that imply a special function, probably politico-religious. Is this, then, the Maya community or "complete community"? Presumably a concentration of 50 houses would represent a community which was self-sustaining economically, at least on the level of the primitive agriculture of those times. It is also to be presumed that the ceremonial centers within these communities of house mounds represent certain religious and political offices and services that were carried out for the benefit of the immediate local community. But does the community stop here or can it be extended to higher and more complex levels? Absent from the Barton Ramie ceremonial center (as far as we know) is any evidence of the finer products of Maya art or any trace of the Maya higher intellectual attainments. There are no carved stelae, no stone altars, no inscriptions. Such features do obtain, however, at the ceremonial center of Benque Viejo some fifteen miles to the west in the same river valley.

We do not know the full nature of the Benque Viejo settlement. The site is a carefully laid out complex of pyramids, palace mounds and courtyards atop a hill overlooking the western branch of the Belize River. At this location the river valley bottom is narrow to nonexistent, precluding the presence of an alluvial terrace mound group of the type at Barton Ramie. There are some small mounds on the hillsides in the rolling terrain around Benque Viejo at distances of one-half to two miles from the center. Whether there are hundreds



11 The pyramid mound (twelve meters high) in the presumed "ceremonial center" near the eastern edge of the Barton Ramie house mound group.

of these mounds, after the fashion of Barton Ramie, we do not know. It seems unlikely, however, that the house mounds around Benque Viejo would be ten times as numerous as those at Barton Ramie; yet on a simple proportional basis this might be expected. The Benque Viejo ceremonial mounds are easily ten times the equivalent size of the little Barton Ramie ceremonial unit (including the Floral Park and Spanish Lookout ceremonial mounds for good measure). But the situation may not have been one of direct ratio between dwelling community and ceremonial center size. The differences between Benque Viejo and the alluvial bottom sites may, instead, have been those of political organization and functional level. If so, the populations from Barton Ramie and other similar sites may have acted in concert to construct and maintain Benque Viejo as a regional center hierarchically superior to the smaller temple and palace mound units within the dwelling communities. Assuming such a territorial and politico-religious entity to have existed, it may have been representative of a "complete community" segment within ancient Maya society.

This, however, is a highly simplified hypothesis. It is quite possible that other and intermediate levels of social, political, and religious organization were interposed between the riverine dwelling clusters and a ceremonial center such as Benque Viejo. The hilltop site of Cahal Pech, near Cayo, might mark the capital of such an intermediate level in administration and territorial control. There are also possibilities and suggestions of organization, intercommunication, and command above the domain of our hypothetical Belize Valley "community" with its putative capital at Benque Viejo. Was the Belize Valley merely a satrapy owing allegiance to more remote and higher levels of authority?

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THE GEMINI ARE BORN

By Phyllis Ackerman

BETWEEN 1928 and 1940 the public interested in early Near Eastern art gradually became acquainted with a hitherto unsuspected culture that had flourished on the western edge of the Iranian plateau, in what is now the province of Luristan, from about 1200 to 800 B.C., and had produced a considerable quantity of bronzes notable for their vivid and original animal stylizations. The first series came out of East Luristan where they had been accidentally discovered by local tribesmen who then made a systematic business of plundering the entire area. These were almost wholly cast bronzes, with only occasional repoussé objects, and included weapons and tools,

chiefly ceremonial but some practical, harness ornaments, ritual objects, vessels, quite a variety of personal ornaments (bracelets being especially interesting), and a striking type of bit for led chariot-horses. This latter is made up of a pair of animal silhouette plaques, each cast in a one-sided mold with a hole in it through which passes a heavy square bar, flattened and spiralled at either end.

A second style from North and West Luristan was first revealed in 1937 by the Second Holmes Expedition of the Iranian (subsequently Asia) Institute of New York which excavated a small circular sanctuary on Surkh





Dum (Red Tail) Mountain. Here the bronzes, aside from a large number of small goat figures already familiar in East Luristan material and evidently votive offerings, were chiefly repoussé. Two or three years later a number of notable pieces in this style filtered into the Teheran market, the local vendors claiming that they had been found in graves near the village of Itavand. Among these were a unique large quiver panel, now in the Metropolitan Museum, and several gold objects.

A silver plaque, repoussé and engraved, which has recently come out of Luristan (almost certainly from Kuh-i-Dasht and datable about 1000 B.C.) is not only

Above: 1. Silver plaque showing the Great God (Aquarius) giving birth to the Twins (Gemini). Height 4½ inches, length 9¼ inches. From West Luristan, ca. 1200-900 B.C.

Below: 2. Bronze belt (or baldric) plaque ornamented in repoussé. Length 20 1/16 inches. From Luristan, ca. 1200-900 B.C. Now in the Musée du Louvre, Paris.



THE GEMINI ARE BORN *continued*



3. Bronze pin with repoussé disk head, showing disk-face framed in radiance, and beyond, seven star-rosettes, each associated with a pair of palm leaves. From West Luristan, ca. 1200-900 B.C.

handsome graphically and decoratively, but also interesting and provocative iconographically (Figure 1). The central and dominating figure is unusual but not unprecedented: an eagle-man. The head is that of a bearded Father-god, human but with bull eyes and horns. He wears a high rounded cap. The body is made of the dismembered wings and tail of an eagle, reassembled in a conical shape. An eagle-man god was important in the Hittite cult (Zenjirli, Carchemish), though there the body is human with eagle head and wings. Carl Schuster has found the combination of bearded human head and eagle wings and tail, similar to the figure on the plaque, in a small series of mediaeval Near Eastern bronze lamps. Logically, and quite possibly in the first instance temporally, prior to the fused eagle-man is a dual figure of an eagle, often bicephalic, with a human *alter ego* superimposed—a motive most perfectly preserved on silks of the tenth century Buyid culture which revived a considerable repertoire of very early themes.

Two striking novelties supplement the eagle-man figure on the silver plaque: inscribed on the breast is a disk-face and balanced on each shoulder is a colossal half-eggshell whence emerges a boy, all neatly and decoratively fitted into the curve of the Father-god's neck and head. The boys have bull eyes and ears and wear small conical caps. To these hatching lads palm-leaf staves are proffered by two groups of ritual celebrants. On the left are four young men (of the fourth, only arms remain) also with bull eyes and ears, wearing hemispherical caps and calf-length belted tunics, each different from the others and all carefully designed. On the right are middle-aged bearded men, likewise four but one almost gone, wearing equally elaborate and meticulously differentiated tunics and low rounded caps. They, too, have bull eyes but they wear horns, as befits their maturity. Below the young men on the left three more youths are seated with their legs drawn up close to the body and covered with either a front skirt-panel, pleated to simulate a palm leaf, or an actual palm leaf. The palm is further emphasized by a band-pattern of palmettes below the bearded officiants; but the borders, above and below, are filled with pomegranates in two different presentations. Close to the eagle-man on the left is a proportionately large decorative star motive.

How was such a plaque originally used? There is no indication, since it is now incomplete on both ends and any means of attaching it to another material must have been in the missing sections. Could it have been a sacerdotal garment-trimming, whether pectoral or belt-appliquéd? In the Musée du Louvre is a repoussé bronze strip from Luristan, presumably used on a belt but with

purely secular hunting scenes (Figure 2). Or was it perhaps, like the Metropolitan Museum Kuh-i-Dasht repoussé bronze plaque, part of a quiver-face, or similarly used on a scabbard?

These are fruitless speculations because not subject to any test. To the meaning of the ritual scene, on the contrary, there is a specific, clear clue; the Twins are shown on some Greek monuments, where they are the Dioscuri being born out of eggs, and indeed male twins born out of eggs is a world-wide folkloristic theme. Moreover, the caps which the Twins on the silver plaque wear are virtually identical with those so characteristic of the Dioscuri that the caps alone often stand for the twin gods.

That the twin eggs should emerge from the shoulders of the Father-god is (to the best of present knowledge) unprecedented, but the concept has parallels in the emergence of Athena from the head of Zeus and the gestation of Dionysus in his thigh. Zeus, the father of the Dioscuri, was thus mythically capable of direct procreation from various parts of his body, and when the Dioscuri are hatched from an egg, it is because Zeus in fathering them took the form of a bird, albeit not an eagle but a water-bird, a swan. The Twins were from the start identified with the constellation Gemini, as Theodor Gaster has wisely emphasized in his rich presentation of the Canaanite (Ugaritic, from Ras Shamra) ritual drama-myth of their conception and birth (*Thespis*. New York, 1950); but it should not be forgotten that neither this nor any other constellation had initially any relation to the solar zodiac, since that represents a relatively late reorganization of calendrical astronomy. The constellation functioned as both morning and evening "star," a dual rôle that the constellation filled at and about the time of its heliacal rising. This also marked properly the "birth" of the Twins, actually of course their "rebirth," their annual reappearance, after an absence, in the night sky. The star motive on the plaque is on the celestial east. Here, then, is the birth of the Twins at the heliacal rising of the Gemini, and the disk-face suspended on the breast of the eagle-man is the sun, rising at the same time as the constellation. Just so does the sun appear on a number of Kuh-i-Dasht bronzes surrounded by a sunburst radiance (Figure 3).

The bearded god with high rounded cap—almost the same head save for human eyes—and with the detached face displayed on his garment and the Twins flanking him is the subject in the fifth zone (counting down from the top) of the Metropolitan Museum Kuh-i-Dasht quiver front (Figure 4). Here, however, the Father-god is wholly human, the sun-face is on his tunic skirt, the



4. Repoussé bronze quiver panel showing in the fifth zone from the top El-Ea with a sun-mask on his skirt, flanked by semi-bovine twins holding palm staves. Length 21 inches. From West Luristan, ca. 1200-900 B.C. Now in the Metropolitan Museum, New York.

THE GEMINI ARE BORN *continued*

Twins, each with a single projecting horn and wearing a short-sword at the belt, stand on either side expressing their close relation by holding the Father-god's arms, and there is a pair of stars relating them to both the morning and evening stars. Thus this is an iconographic complex in place of a ritual dawn-ceremony scene as on the silver plaque. The palm, so dominant on the silver plaque, also reappears on the quiver front in an iconographic complex, in the lowest zone, with a pair of winged bulls flanking it.

The Ugaritic myth of the conception and birth of the Twins identifies the Father-god in the West Asian myth which was the antecedent of the Zeus-Dioscuri group, though no one can say what the Father-god was called amongst the skilled metalworkers of Luristan, whoever they may have been. In the Sumer-Akkadian and Canaanite cultures he was called "El" ("Powerful," which came sometimes to be used for "God," as such), "Ea" ("Water")—and Ea was important as one of the ancient gods in Hittite mythology, "Enki" ("Lord of the Below," i.e. of the south); and as his twin sons were from the start a constellation, so was he also: Aquarius, who dominates the Autumn-Winter southern sky in the north temperate zone, the section of heaven known as the "Apsu," or "Ocean." Storm- and Water-god, and consequently Fertility-god, he was also God of Wisdom, including both magic and craft skill, closely related capacities in early Asian thinking. His most intimately associated attribute, sometimes actually part of himself, was Capricornus, from the beginning, as still, identified as a horned animal, whether goat or antelope.

El's first and, in the more familiar sects, most important son was, as the Akkadian epic, the "*Enuma elish . . .*" (e.g. VI. 90) records, the personation of the larger constellation alongside the Gemini, an extended Orion using our *Canis Major* as his powerful bow; and he shared his Father's functions as storm, water, fertility god, adding to these, in some instances, an identification with the Vine. He was variously designated, for example: "Tammuz" ("Son-of-the-Apsu"), "Marduk" ("Child-of-the-Holy-Chamber"), "Melqarth" ("King-of-the-City"); and in relation to the last, the Father-god is called "Lord of the Palm." Here, then, is the explanation of the major rôle of the palm on the silver plaque. The pomegranate, because of its many seeds, was a symbol of male generative power.

Two other zones of the Metropolitan Museum quiver front demonstrate further important relations of the Father-god and the Twins; but more directly relevant to an understanding of the silver plaque is a "Fertility-god cult relief, from Assur" published by Henri Frankfort in *The Birth of Civilization* (Plate VIII). For here the body of the bearded Father-god, up to his waist, is a mountain (or colossal cairn, an imitation mountain), which explains the rearrangement of the eagle elements on the silver plaque in a conical shape; here, too, El-Ea-Enki is mountain as well as man, bull and eagle. Moreover, in the Assur relief it is the peak of the mountain which forms the high rounded cap, explaining the persistence of that costume detail—it was part of the personality's definition.

On the Assur relief, on plants growing from El's mountain-hips stands Capricornus duplicated symmetrically; below are the Twins as baby boys holding the flowing jars which, as E. Douglas Van Buren demonstrated fully, is El-Ea's outstanding symbol. They wear the Dioscuri caps and long skirts of thin material pleated into water ripples. This gives the key to a number of different details in the costumes of the celebrants on the silver plaque: rippling diagonal pleats, pleated flounces, zigzag bands and stripes all ally the officiants with the element water personated by El, Lord of the Deep. Likewise the human figure superimposed on the eagle on some of the Buyid silks wears costumes ingeniously devised in terms of water symbols.

Since the celebrants on the plaque are thus related by costume trimmings with El, it may well be that their type-differentiations and positions ally them with the constellation Gemini: the young boys seated with legs concealed below on the left or celestial east correspond to the Twins still with legs concealed in the eggshell, the constellation rising, and the Morning-star motive is beside them. The young men above would be the constellation at the zenith; the older men the constellation "dying," about to set, on the celestial west.

The silver plaque when analyzed in full detail with comparative studies of both relevant texts and other iconographic documents, notably the Metropolitan Museum quiver frontal, clarifies fundamental features of the ancient West Asian astro-cosmological and calendrical cult, in which are rooted some factors of every major subsequent religion and mythology.

• EMMANUEL ANATI was born in Florence, Italy. After spending some years traveling in various European countries he settled in Jerusalem, where he attended the Hebrew University and took his degree in archaeology. During recent years he has been working with the Israel Department of Antiquities, under whose auspices he has directed several archaeological projects, among which was the excavation of the Canaanite Bronze Age cemetery at Tell Abu-Hawam. Lately he has conducted a survey of the Central Negev, where he came upon the subject matter of this article.

By Emmanuel Anati

ROCK ENGRAVINGS IN THE CENTRAL NEGEV

SINCE the middle of the past century the Negev, the southern desert of the Land of Israel, has been a fertile field for archaeological research. Its connection with the wanderings of the Children of Israel in the desert, together with the extremely interesting remains of colonization and agriculture in the Roman and Byzantine periods, has made it the pivot of attention for archaeologists such as Robinson, Palmer, Vincent, Abel, Lawrence, Woolley, Alt, Glueck and many others. Much has already been discovered there; nevertheless vast areas remain as yet unexplored and even unvisited by the trained observer, and consequently every visit brings unexpected surprises.

The rock engravings, or petroglyphs, with which we are concerned had been noticed previously by various travelers, and until quite recently had been considered

One of the groups of engraved rocks. The inscriptions and the more important engravings are copied by tracing on transparent paper.



ROCK ENGRAVINGS continued

by most observers to be the work of modern Beduins. Some of them are, in fact, modern, as we shall later see, but side by side with them ancient engravings are to be found. The distinction between the various types was first made possible by the accidental discovery by an expedition of the Hebrew University's Department of Geography of ancient inscriptions accompanying some of these engravings. A further survey enabled the author to discover a focal point where the petroglyphs were found in great quantities, accompanied by as many as sixty new inscriptions.

The inscriptions were written principally in Thamudic, Nabataean, Greek and Early Arabic. We could discern that both the Thamudic and Nabataean inscriptions were always related to a particular kind of engraving, Greek to another, and Early Arabic to a third type.

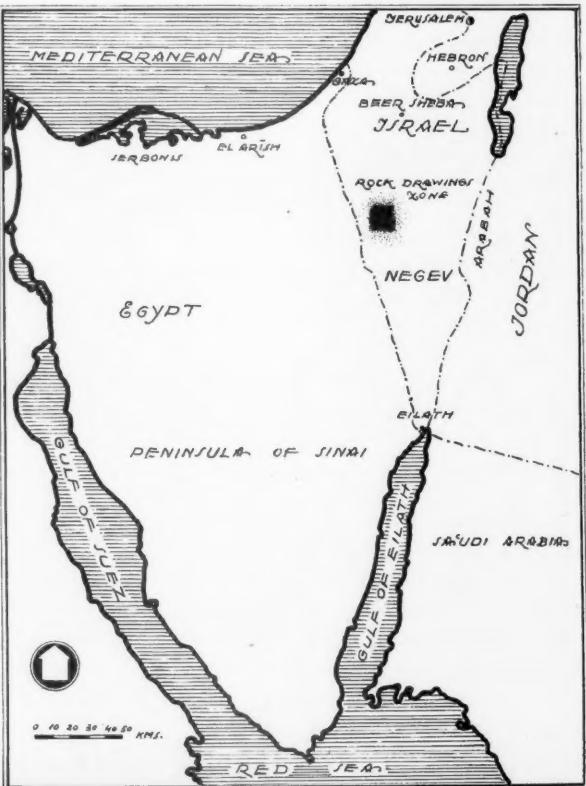


A tool *in situ*. The tools, of local flint, were generally left on or near the engravings.



A Beduin tent in the region of the rock engravings. Little change has taken place in the Beduin way of life during thousands of years.

Map showing the region where the petroglyphs were found.





Wall engravings within the cave at Wadi Ramliyeh. A man and a horned animal are represented. These are the oldest engravings found in the region (Style I).



Moreover, many of the rocks bear engravings of various periods superimposed, each individual period having a different shade of patination. The observation of these details on more than five hundred rocks permitted us to distinguish seven different styles. The latest one is modern, the sixth is always connected with Early Arabic inscriptions, the fifth with a few Greek inscriptions, the fourth with Thamudean and Nabataean inscriptions. The other three styles are not accompanied by any inscriptions whatsoever. While the four later styles are to be found in profusion, these three earlier ones are scarce, and therefore create chronological problems.

We assign to *Style I* some engravings on the wall of a cave in Wadi Ramliyeh. These differ from all the open-air engravings in technique and size; a schematized man is probably represented, and the upper part of an animal with big round horns. They are very deeply engraved and their full length is about two meters. We have no clues whatsoever as to the precise date of these engravings, but we believe that they can be compared as regards technique to some of the early engravings at Kilwa in southern Transjordan, which have been tentatively dated by Rhotert to the Stone Age. All the other engravings are much smaller, the length of the figures varying from five to forty centimeters.

Style II is characterized by an emphasis on space value and a tendency to rounded, simplified forms. Details are omitted so that no eyes appear and often the animals'

legs and horns are indicated by one stroke for each pair. On one rock, engravings belonging to *Style IV*, which possess here a patina of a much lighter shade, were superimposed on others attributed to *Style II*. This permits us to conclude that *Style II* belongs to a considerably earlier period than *Style IV*, which has been assigned to Hellenistic-Roman times. Petroglyphs similar to those of *Style II* have been found in southern Transjordan and in central Arabia, but as they have not yet been definitely dated, they cannot contribute much toward determining a chronological framework for our finds.

Style III is more realistic. Human representations appear as well as hunting scenes. In contrast with the previous and subsequent stages, this one is full of life and movement. Such details as eyes, and beards of antelopes, now appear. We have no clue to the framework to which this style belongs.

Style IV is schematized and linear. The drawings no longer have any volume; they are static repetitions. With the help of the Thamudean and Nabataean inscriptions which accompany the engraving, their date can be determined as within the period from the third century B.C. to the third century of our era. From this time onward, until the Middle Ages, we find very few changes. The same stylized antelopes appear again and again until late in the Arabic period. Styles *IV*, *V* and *VI* differ from each other in some details but the general approach remains much the same.

ROCK ENGRAVINGS continued

Below: Three stylized antelopes belonging to Style IV superimposed on two horned animals of Style II barely visible at the extreme right.

Right: A drawing of the two stylized horned animals belonging to Style II.



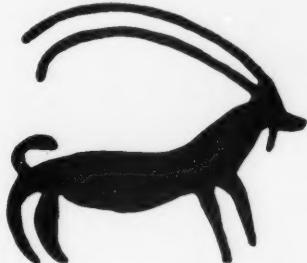
Style V is a return to realism and movement. It shows that a new wave of life had penetrated into the region and reawakened its inhabitants. Generally the drawings remain linear, but sometimes the spaces are filled in. Occasionally objects are defined by a contour line only. Together with antelopes very similar to those of Style IV, we find a great number of camels and horses and also scenes of battle, of horse racing and of caravans. This change of subject may also reflect a change in the way of life of the local inhabitants and in their economy. In

Styles I-IV we witness the expression in art form of a pastoral and hunting life, but later, as the culture developed, new elements such as commerce and war were added to the subject matter, showing the gradual infiltration into primitive rural life of a more sophisticated civilization. Clearly enough this change was a consequence of the appearance of Roman and Byzantine armies in the area. Style V must belong to the period between the third and seventh centuries of our era.

Style VI returns to the linear and static characteristics



A realistic antelope and a horned animal belonging to Style III.



A human figure, perhaps a dancer, probably belonging to Style III.



Dog running after an antelope, a subject very common in several periods. This engraving belongs to Style IV. The same subject is used with a completely different approach in Style III (compare Centerfold illustration).

of Style IV, clearly showing how the withdrawal of Byzantine influence caused a return to the former way of life. The drawings are even more stylized than those of Style IV and they tend to be abstract and ornamental. This style is always accompanied by Early Arabic inscriptions, thus dating it from the seventh century all through the first centuries of the Moslem era.

The local Beduins have continued to engrave these same rocks until this very day, but they have become illiterate and their drawings are generally of an abstract

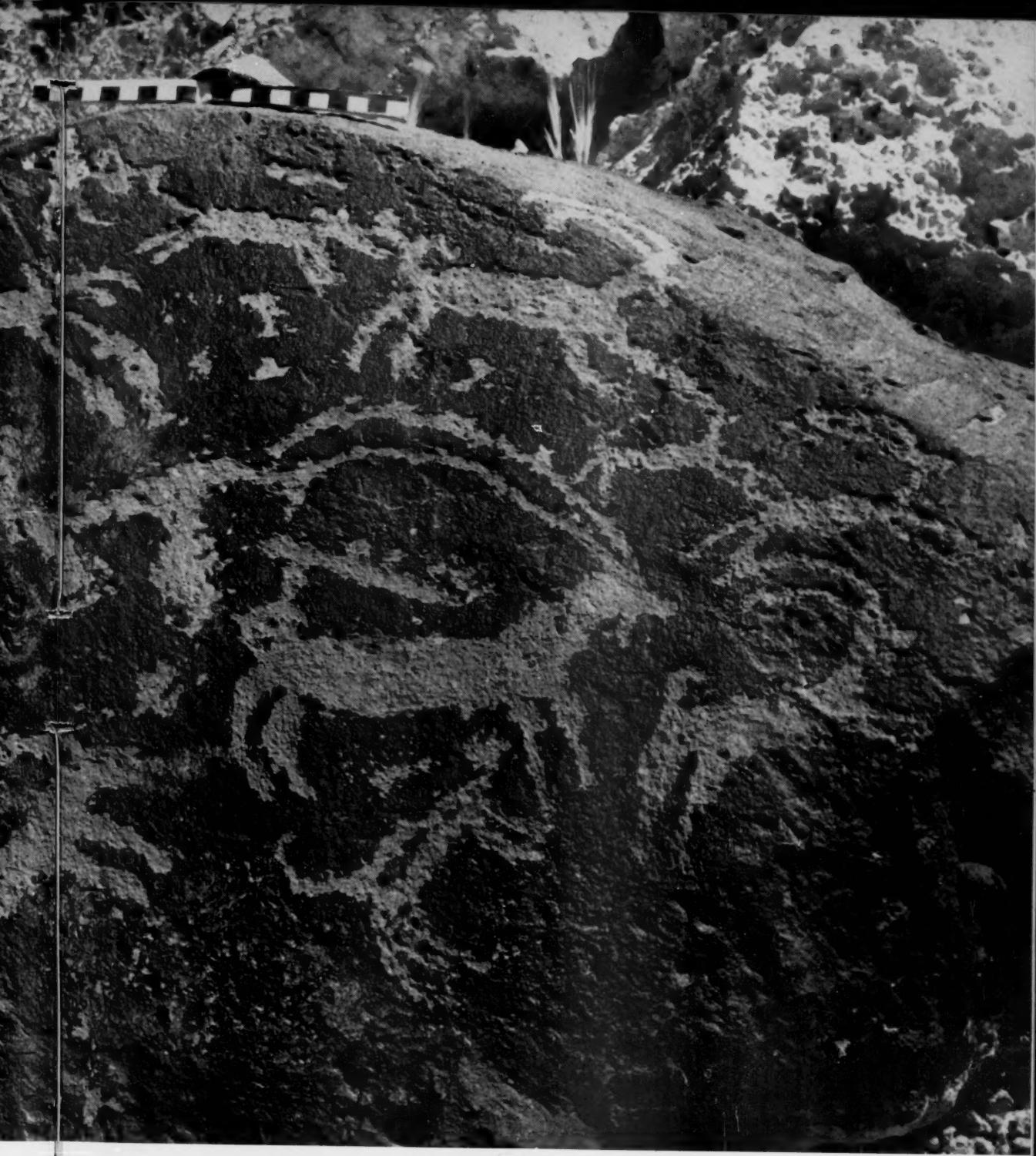
nature, usually consisting of tribal marks and other signs.

By examining the various styles we obtain a surprisingly clear outline of the historical background of the region. This art form, with which we are acquainted in the Sahara, has left its traces in almost all the desert regions of North Africa and the Middle East, from Algeria in the west to eastern Arabia and Mesopotamia in the east. The discoveries described here belong to the same general pattern, and we hope that they may provide a link between the petroglyphs of Asia and Africa.

ROCK ENGRAVINGS continued



A hunting scene belonging to Style III.
The life and movement which appear in this style
are in complete contrast with the previous
and following styles.



ROCK ENGRAVINGS continued



A Thamudean inscription (on the left) associated with some schematized drawings of Style IV. Two antelopes and a hunter between them can clearly be seen.

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A Nabataean inscription associated with some characteristic drawings of Style IV. Here can also be seen a schematized man and a static, linear antelope.





The engraved impression of a hand.
This subject is typical of
the Nabataean period.



A crudely engraved giraffe belonging to Style IV.

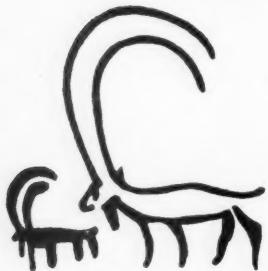
Engravings of Style VII superimposed on others of Style IV.
The different shades of patination can clearly be seen in the photograph.





Engravings of Styles IV and V on the same rock.
On this rock drawings of Style V are engraved with
contour lines, while Style IV is linear.

Long-horned antelopes belonging to Style V.



A series of engravings of Style V
covered with tribal marks
belonging to Style VII.



ROCK ENGRAVINGS continued

A warrior on horseback
armed with a spear, Style V.



A Greek inscription, probably the
beginning of a name (Theodoros ?).

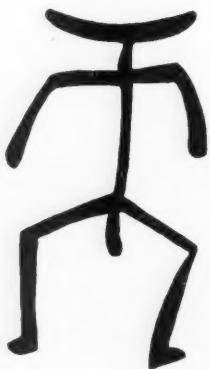


A man on horseback. The figure can be seen at the extreme right on the rock in the photograph at the left.

ROCK ENGRAVINGS continued



An Early Arabic inscription accompanying some animals typical of Style VI.



A stylized man belonging to Style VI.



Modern Beduin petroglyphs.
On the right a snake is easily
recognizable, while on the left
a tribal mark (*wasm*) appears twice.



THE NEW GRAVE CIRCLE OF MYCENAE

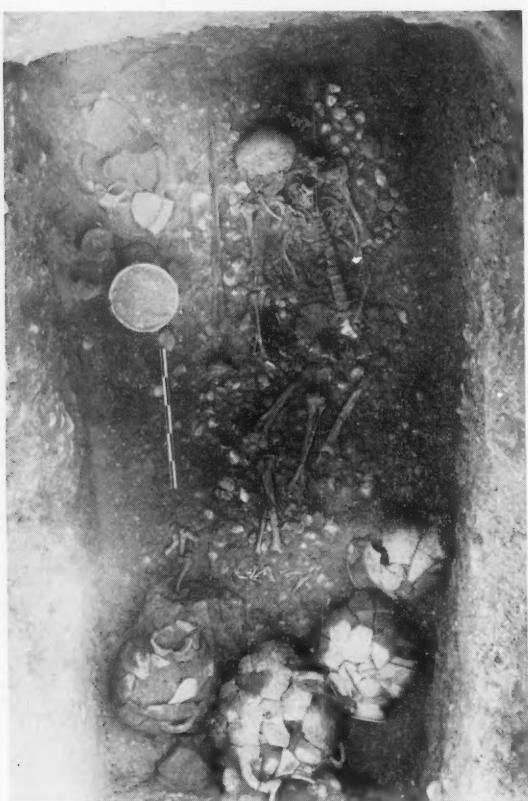
By GEORGE E. MYLONAS, *Professor of Archaeology, Washington University*
and JOHN K. PAPADEMETRIOU, *Ephor of Antiquities of the Argolid*

MYCENAE, the capital city of Agamemnon, this past summer again became the center of great activity. Professor Alan J. B. Wace, who has contributed more to our knowledge of Mycenae and the Mycenaean world than any other living scholar, continued his investigation of the houses of Mycenae and of its citadel. The Greek Service for the Preservation and Restoration of Ancient Monuments, under the direction of Professor Anastasios Orlandos, began the restoration of the crumbling fortification walls of Mycenae and of the palace of Agamemnon on top of its citadel, while the Greek Archaeological Society continued and brought to a successful completion the exploration of the Grave Circle discovered in 1951.

Three campaigns, conducted in three consecutive summers, were required to complete that exploration. How the Circle was discovered, what it yielded in the first campaign and in the summer of 1952, has already been told (*ARCHAEOLOGY* 5 [1952] 194-200). That account made it clear that in our days, some 130 meters west of the "Lion Gate," beside the modern road, a Grave Circle similar to the one found by Schliemann in 1876 was being explored. The question then uppermost in our minds was: how many graves would the new Circle contain? Schliemann found only five graves, to which Stamatakis later added a sixth, in the Grave Circle within the walls. Those graves, however, proved sufficient not only to fill a great many show-cases with gold and other objects of great artistic and historic merit, but also to open up a

new field of research and to bring mythical Greece within the dawn of early history. The new Circle has yielded many more graves, twenty-four in all, and to these have been given the letters of the Greek alphabet. Graves Α to Θ were explored in the summer of 1952; graves Ι to ΙΙ were cleared in the summer of 1953 and graves Ρ to Υ were explored in July and August of 1954. The four remaining graves, cleared in 1953 and 1954, were very small and were not assigned letters.

Most of them are shaft graves of the type described in 1952. Their sides are cut in the rock; their roofs rest on beams supported by their walls, which rise some 0.70 m.—1 m. above their floor levels; their floors are covered with pebbles. On those floors the dead were laid in a more or less extended position and around them were placed gifts and some of their belongings. Grave Ι (Figure 1) offers a typical example of the contents of one of these sepulchers. A single skeleton occupied most of the floor of the grave, while the bones of a person who had been buried in it earlier were piled in the corner in a manner characteristic of the times. Beyond the feet were deposited large jars with provisions, jars elaborately painted in matt colors, while in front of the head were placed goblets of a well known Middle Helladic type, perhaps originally containing liquids. By the right hand of the deceased was laid a long bronze sword with an ivory pommel, and next to it a bronze dagger with a handle of rock crystal. Around the wrists were found



1. Grave I, showing the contents of a typical grave in the new Grave Circle at Mycenae.

gold bands, perhaps originally decorating the hems of long sleeves, while small gold ornaments which appeared in the pelvic area perhaps once served to decorate a belt.

Not far from Grave I, Grave N was explored. This was the grave to which the stele found in 1952 belonged (ARCHAEOLOGY 5 [1952] page 200, figure 12). We could not excavate this grave at the time because the village aqueduct passed over it and its course had first to be altered. On the roof of Grave N we found a mass of pottery (Figure 2) while on its pebbled floor was revealed one complete skeleton in a rather interesting extended position (Figure 3). Below his jaw appeared a band of gold, apparently the edge of his garment. When the floor was completely cleared, we found the bones of another person, an earlier occupant of the grave, piled along one of the sides. Around both skeletons a number of gifts and belongings were discovered: vases with interesting decoration, swords with ivory pommels, daggers, a spear head, gold bands decorated in repoussé, a gold cup of an ingenious design (Figure 4) and the remnants of bronze and silver goblets. An exciting moment was upon us when we realized that some of the bronze articles were wrapped in cloth which was more or less preserved. To clear and remove the objects without destroying the frayed cloth was not an easy task, but it was accomplished successfully.*

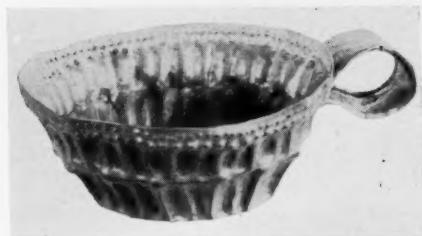
It was astonishing to find that the bronzes so wrapped some seventeen centuries before Christ were better preserved than any other bronze article found; the spear head, especially, survived in an almost perfect condition (Figure 5). It seems probable that it was covered with oil or grease and then wrapped in cloth; to this is due its excellent preservation.

Grave Ξ provided us with a few sentimental hours. The bones of a very young person were found in it, surrounded by a number of late Middle Helladic vases (Figure 6). Around the skull was found an ornament or diadem made of gold leaves and secured on a bronze band; beads arranged in the form of long ovals were placed over the temples, and more beads with a paste amulet formed a necklace. A small gold ring was found

* This was in the main due to the skill, patience and interest of our foreman, John Karametros, to whom we entrusted the task of clearing the graves. Praise is too small a reward for his great contribution to the success of our work. The task of vase mending was ably performed by Argyres Marines of Corinth.

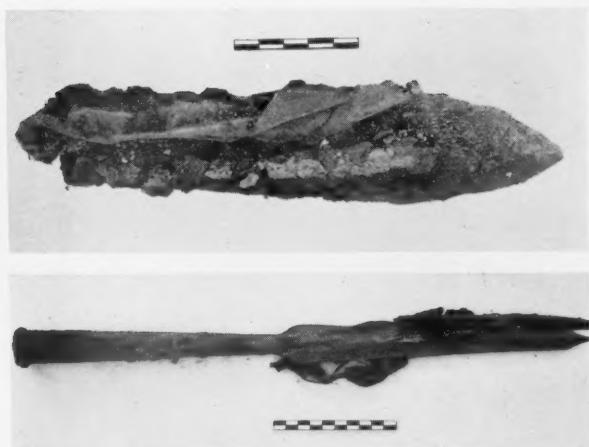


2. Two of the vases found on the roof of Grave N.



4. Gold cup found in Grave N.

3. Skeleton on the floor of Grave N. At the right of the deceased are his swords and daggers.



5. Bronze spear head and knife wrapped in cloth, from Grave N.

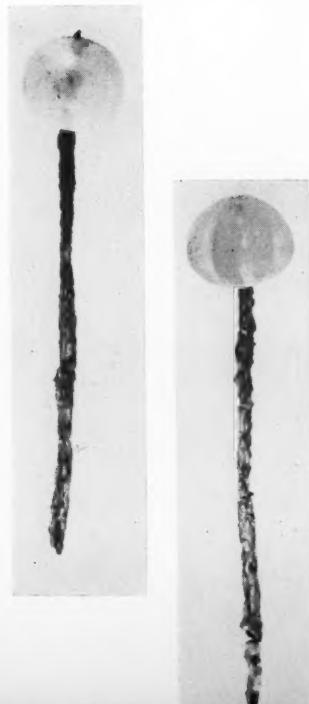


6. Grave Σ, with the skeleton of a young princess.

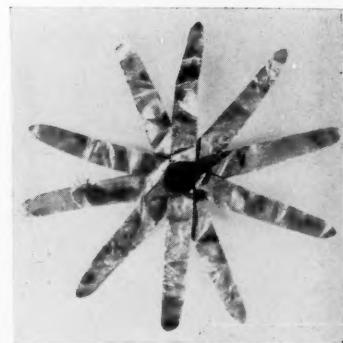


7. Gold bands decorated in repoussé, from Grave Ο.

THE NEW GRAVE CIRCLE OF MYCENAE *continued*



8. Pins with rock crystal heads, from Grave Ο.



9. Rosette made of gold bands, from Grave Ο.

on one finger, while an earring told us that we had to deal with a girl, a small princess who lived and played among the walls of Mycenae about 1600 B.C. The grave of our small princess is a mere shaft today; when its contents were still on the floor it presented a striking picture of life and beliefs in the pre-Homeric days of Mycenae.

To another, older, girl were given a mass of pottery and a necklace of semi-precious stones with a cornelian gem at the center bearing a pattern of plants (Grave M).

Perhaps the most interesting grave of the 1953 campaign was Grave O. In it were found the remnants of at least two skeletons; one was piled in the corner, the other was lying extended in the middle of the floor. The latter, the skeleton of a woman, was found covered with gold bands decorated in repoussé (Figure 7) and with necklaces of gold and amber; a number of pins, three with heads of rock crystal (Figure 8), originally held her clothes in the proper position, while a rosette of gold leaves (Figure 9) perhaps decorated them. Here again numerous vases were placed with the dead. But the most important single object found in this grave was a bowl of excellent workmanship, made of rock crystal in the form of a duck (Figures 10, 11). It was found broken in many pieces among the bones which had been pushed aside. The body of the duck forms the bowl, its tail the spout, and the elegant neck with the head turned back-

ward the handle of the bowl. This grave, which has been called the "Grave of Crystals," must rightly be considered as one of the best.

We firmly believe that shaft grave A would have been equally interesting and important. The roof had collapsed at an early period, but it was found almost complete on top of the floor. Below that roof we expected one of our most important finds. That expectation was strengthened when in clearing the edge of the eastern side of the grave we found a pile of bones which had been brushed aside and with them bands of gold (Figure 12) and the remains of a bronze dagger. Our expectations were not fulfilled, however, because on the central part of the floor of the grave we found the crushed remains of a skeleton and nothing else. At the southwest corner were the shattered remains of a few vases, while in the northwest corner a small pile of earth stood beside the wall. The grave seemed entirely empty of *kterismata* (votive offerings). But above the pile of earth in the northwest corner, high up on the wall of the grave, we detected a hole some sixty-five centimeters in diameter; when the earth was removed, we found below a large bronze sword with gold trimmings, a number of bronze daggers and knives with ivory handles, the ivory pommel of the sword and a number of arrowheads in obsidian and limestone (Figures 13, 14). When we lifted the sword, we found be-

10. Bowl of rock crystal, from Grave O.
Length 13.5 cm.



11. Handle of rock crystal bowl, from Grave O.

THE NEW GRAVE CIRCLE OF MYCENAE *continued*

low it the remains of leather; it was apparent that the sword had been in its leather scabbard which was decorated with the gold trimmings. It was also apparent that through that hole, still in Mycenaean times, somebody had entered and robbed the grave. The stones and earth which fell to the floor when the hole was made and the robbers passed through it had covered the objects piled against the side of the grave and thus preserved them for us. It is really interesting to note the reaction of the mind to such a situation. The high expectations, the regret, the disappointment, the flight into conjecture and wonder: what were the original contents of Grave A?

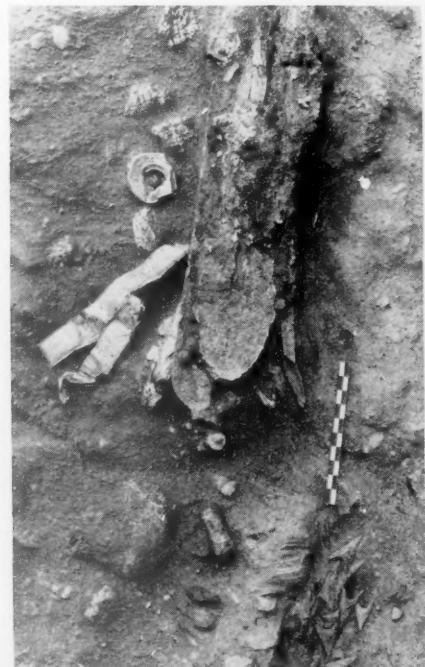
We experienced the same feeling in 1954 when the largest shaft grave found in the Circle was located and was being excavated. Seven meters in length and 3.10 m. in width, from the very start it held unusual promise. Within the shaft we found a grave of well cut and fitted poros blocks, unique in plan and in structure: a *dromos* (passageway), a doorway with its relieving triangle

above, a chamber almost 3 m. long and 1.50 m. wide, with converging walls, saddle-shaped roof and paved floor (Figures 15, 16). The joints of the blocks were filled with water-resisting clay and then covered with stucco. Over that were painted alternate bands of black and red, while solid red color covered the doorway. A unique, interesting and monumental grave indeed—but it was empty. Only a few specks of gold leaf here and there, a stray carved gem, a few pieces of pottery of importance only for the chronological data they provide; these few objects survived to prick our imagination: what must have been the contents of Grave P? Incidentally, the grave is of late date and must be contemporary with Wace's second group of tholos tombs, ca. 1460-1400 B.C.

Disappointment does not last long in Mycenae. Grave Y, the last grave of the Circle, yielded the remains of a woman surrounded by a good number of vases (Figure 17). Over her right temple was a gold ornament of leaves held in position by bronze pins and over her left shoulder



12. Gold bands decorated in repoussé, from Grave A.



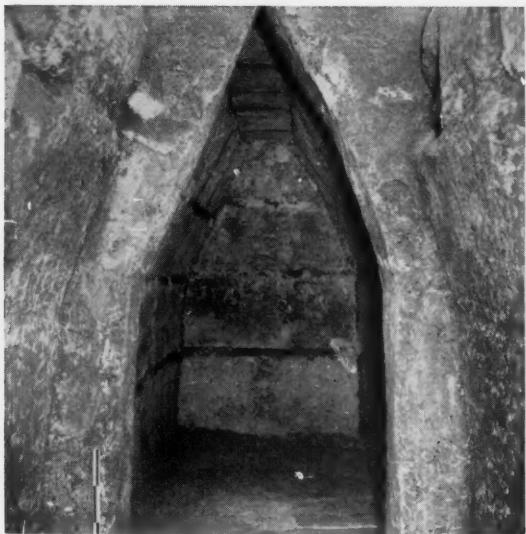
13. Some of the contents of Grave A: daggers, sword, gold bands, the ivory pommel and (at lower right) stone arrowheads.



14. Grave A: bronze sword and the gold trimmings of its leather scabbard.



15. The entrance to Grave P, the largest grave in the new Grave Circle, which is of later date than the rest.



16. Chamber of Grave P, showing the painted bands which mark the joints of the stone blocks of the sides and roof.



17. Contents of Grave T. The gold band and gold hair ornaments show clearly on the shoulder and temple of the deceased.

THE NEW GRAVE CIRCLE OF MYCENAE *continued*

a band of gold which perhaps fastened her braid. Silver earrings were found on either side of the skull and a double necklace of semi-precious stone beads and glass amulets was revealed around the neck. Beyond her head were four bronze rings and a number of pins, the head of one of which was of rock crystal.

The exploration of the Grave Circle of Mycenae has been completed by the Greek Archaeological Society. We are grateful to the Council of the Society for granting funds from the Pharmakopoulos bequest that enabled us to complete the work. This exploration has yielded a wealth of material and scientific data which, we hope, will add considerably to our knowledge of the beginnings of the greatness of Mycenae. For it was in the days of the new Grave Circle, in the closing years of the Middle Helladic Period, around 1600 B.C., that Mycenae began to rise to a position of leadership and of great promise. We still do not know the names of the people who were

buried in the new Circle. But there can be no doubt that they were members of the ruling class, that they were mighty warriors, as we can surmise from their weapons, that they were tall in stature for people living in a Mediterranean region, averaging 1.70 m. (5 feet, 7 inches), that they were members of the Indo-European tribes which began to move into Greece at the beginning of the second millennium B.C., real Greeks in the historic sense of the name, and that they are the people who laid the foundations of the greatness of Mycenae. We hope that their story will become fuller when the objects from their graves have been studied and these records published. Meanwhile, we may bring to a close another chapter in the fascinating story of the efforts of modern scholarship to bring back to life the Mycenae of Agamemnon and his ancestors. This chapter will prove as interesting and important as those written by Schliemann, by Tsountas and by Wace, the three immortals of Mycenae, about the "City Rich in Gold" and in mighty deeds.

THE NUMBER OF PAGES

in ARCHAEOLOGY has been increased, beginning with the Winter 1954 issue, from sixty-four to seventy-two. These additional eight pages will continue as a regular feature of the magazine. They will be used to bring more promptly to our readers the reports of new finds and current excavations which come in from all parts of the world, as well as to enlarge the space allotted to news items and book reviews.

SUBSCRIPTION PRICES

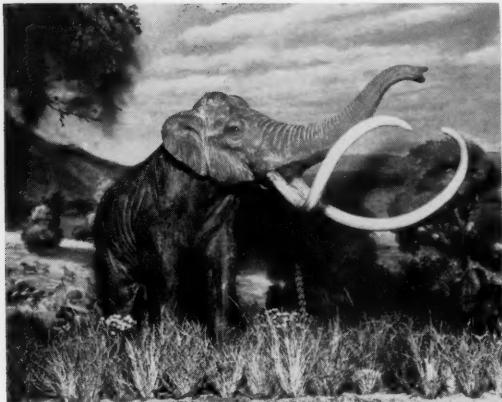
have undergone a slight revision. While the annual subscription remains at five dollars, two years may be had for nine dollars, and the same rate applies to two subscriptions ordered at the same time by one person. The extra charge of fifty cents for subscriptions abroad has been canceled. *Foreign subscribers please note.*

THE NEW ADDRESS

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By EMIL W. HAURY

A MAMMOTH HUNT IN ARIZONA



A mammoth as it appeared in life, with its characteristic long curving tusks. Its shoulder height is estimated as having been about ten feet. (From the Ventana Cave diorama, Arizona State Museum.)

• A native of Kansas, EMIL W. HAURY studied at the University of Arizona (A.B. 1927, A.M. 1928) and at Harvard University (Ph.D. 1934). His introduction to anthropology came in 1925 when he joined the National Geographic Expedition to Cuicuilco, Mexico, under the direction of the late Dr. Byron Cummings.

In 1929-30 Dr. Haury worked with Dr. A. E. Douglass in the Laboratory of Tree-Ring Research, and from 1930 to 1937 he was Assistant Director of the Gila Pueblo Archaeological Foundation. In 1937 he joined the faculty of the University of Arizona as Professor and Head of the Department of Anthropology and in 1938, upon the retirement of Dr. Cummings, he became Director of the Arizona State Museum.

Most of Dr. Haury's work has been concentrated in the southwestern United States. He has also done research on the Chibcha in Bogotá, Colombia. He is the author of *Ventana Cave* as well as of several reports and articles.

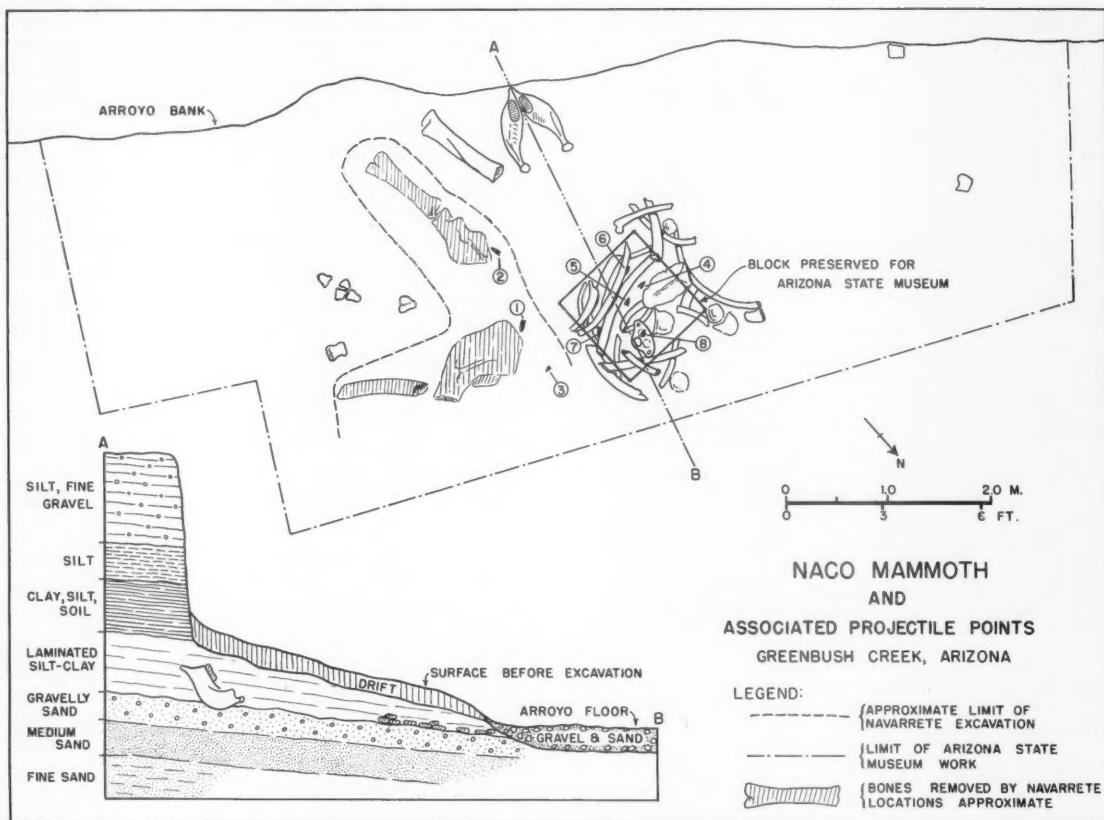
MANY of the evidences of America's oldest inhabitants are exposed during Nature's restless rearrangement of the solid matter of the earth's surface. What was once buried is again brought to view. An effective agent in this process is water. Laden with clay, silt or sand, it places a concealing mantle over whatever lies in its course during times of earth-building; in periods of earth-cutting, the same may be exposed. This was the case with the discovery of the Naco mammoth.

Greenbush Creek is a tributary of the San Pedro River, situated about a mile west of Naco, a little Arizona town which straddles the United States-Mexico border some ten miles southwest of Bisbee. This gravel-strewn channel, about 4,500 feet above sea level, is dry during most of the year but at times it becomes a rushing torrent which eats away at the bank. For some fifteen years Fred and Marc Navarrete, father and son who are residents of Naco, have been watching this channel for

The southwest bank of the arroyo of Greenbush Creek, one mile west of Naco, Arizona, where the mammoth remains were found.



MAMMOTH HUNT *continued*



Plan and section of the area excavated at Naco, showing the extent of the bone bed, location of the spear points (Nos. 1-8) and the stratification of the site.

fossil remains which appeared from time to time. In August, 1951, after summer freshets had newly eroded the bank, they noticed that bones appeared in view. This encouraged them to dig in an attempt to salvage what appeared to be part of the skull of a large animal including teeth and tusk. In the course of this work they found near the skull a stone projectile point in an apparently undisturbed context. Additional digging soon revealed the left foreleg, scapula, humerus and ulna. Near the upper margin of the scapula, again in the undisturbed clay, a second projectile point came to light.

At this point the Navarretes realized that the find had great scientific value and they reported it at once to the Arizona State Museum. It is owing to their interest and understanding that this important find was preserved. In the spring of 1952 regular excavation was undertaken.

Excavation entails more than mere removal of objects from the earth. Inevitably there are problems which demand the assistance of a variety of specialists. In this case there was first the physical task of exposing the fragile bones without damage and of determining with certainty that the man-made tools were contemporaneous

with the bones. A paleontologist was needed, to determine precisely what kind of animal we had found; a geologist's knowledge was vital to the understanding of the age of the discovery. It would also be necessary to save clays for pollen analysis as an aid to dating, and charcoal, if present, for Carbon 14 analysis, the newest method for calculating age. Our first move, after learning the location of the bones and the nature of the matrix in which they occurred, was to strip the surrounding area of the covering of silt fallen from the arroyo bank and recently washed in by the creek. This exposed the clay in which the bones were encased and at the same time revealed the extent of the Navarretes' excavation. We could then be sure that we were digging in undisturbed ground. Next came the slow process of removing the clay from around the bones. Gradually the extent of the bone deposit was determined as well as the locality of greatest concentration of ribs and vertebrae, the area most likely to contain other projectile points.

The careful process described above had excellent results, for we discovered eight spear points in all. One was found near the base of the skull, one near the upper margin of the left shoulder blade, five among the ribs and vertebrae and one with position indeterminate. Although none of the eight points was imbedded in a bone, their positions were such as to leave no doubt that these were the weapons with which the mammoth was killed. Whether the spears were thrust or thrown

Excavation of the mammoth bones. Delicate tools and brushes are used at this stage of the work. In front of the worker at the left is the mammoth's lower jaw. The papers pinned to the earth mark where two spear points were found.



Detail showing some of the mammoth bones as discovered. One of the spearheads is lying against a cervical vertebra, the atlas, which is the first below the skull. Apparently the point pierced the vertebral column, damaging the spinal cord.



MAMMOTH HUNT *continued*

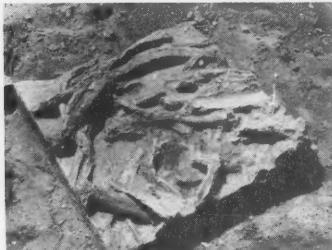
we shall perhaps never know with certainty, yet the hazards of close-range thrusting at such a formidable creature would suggest that at least the first spears were thrown. Once it had been crippled, the animal could have been dispatched with effective jabs. We reconstruct the story in somewhat this manner: while drinking from a small stream the mammoth was surprised by one or more hunters, who brought it to earth with no less than eight well aimed spears. It fell on the sloping surface of a sand bar in or near the water's edge. The animal was defleshed on the spot and its hind quarters may have been carried away. After decomposition of the tissues remaining after the removal of the meat, some of the bones were displaced. No one bothered to pick up the spear points, which appear to have remained close to the places where they lodged on entering the body.

The exact identification of the animal was determined by careful study of the teeth. Though large, these are not the adult teeth, which were found unerupted in the jaw. This indicates that the animal was comparatively young, between twenty-five and sixty years of age. It is of the species *Mammuthus (Parelephas) columbi*, or Columbian Mammoth.

The spear points, although of various sizes, are all of the Clovis Fluted type, named after Clovis, New Mexico, where the form was first recognized. Similar spearheads have also been recovered among the bones of elephants in Nebraska, Colorado and Texas, which shows that the ancient elephant hunters wandered far afield. Those found at Naco are of two materials: dusky red and brown chert, and a dark gray felsite. The considerable range in the size of the points (5.8 cm. to 11.6 cm.) shows that the largest animals known to ancient hunters were not always hunted with only the largest tips on their spears.

We may visualize the sequence of events leading to the preservation of the bones somewhat as follows: within a few years of the slaughter the stream was dammed and what remained of the carcass then lay in a pond. (That this took place within a few years is indicated by the good preservation of the delicate parts of the bones.) The ponding provided the conditions for the formation of the clays which preserved the bones. Over the years the protective mantle of earth was deepened by successive flooding of the area. It may

Transferring the find to the Arizona State Museum:



A three-foot-square section containing five of the spear points was selected to represent the evidence. Excess bone and the sandy layer beneath were removed.



The bones were then covered with an insulating layer of wet newspaper and over this four-inch-wide strips of burlap dipped in a solution of plaster of Paris were applied and modeled to the contour of the bones.



The eight spear points found among the bones of the Naco mammoth. The largest is about 4½ inches long.

also be inferred that no one visited the site between the time of the "kill" and the disappearance of the bones under water; else the spear points, some of which must have lain in plain view, would most likely have been carried off.

This and other discoveries have proved that hunters in America killed and feasted upon animals which no longer exist. Exactly when this happened is difficult to determine. The age cannot be based on the kinds of animals killed because as yet we do not know either the exact time or the order of extinction. The climatic history preserved in the earth above the "kill" is, at present, our most reliable and widely used clue. Dr. Ernst Antevs, a leading specialist in this study, has dated the Naco find to a period between 11,000 and 10,000 years ago. Charcoal which was found in the clay near the mammoth bones is also expected to yield information about the date when it has been subjected to Carbon 14 analysis.

The San Pedro Valley has long been known as a fertile source of palaeontological material, and it may be expected to continue to yield information about early man and his way of life.

When the burlap strips had hardened, the section was enclosed in a rigid plaster covering and wooden supports were added along the undercut edges of the block. Here the section is being lifted and turned over, so that sand can be removed from the underside of the bones and plaster reinforcement added. This done, the block was ready to go to the Museum.



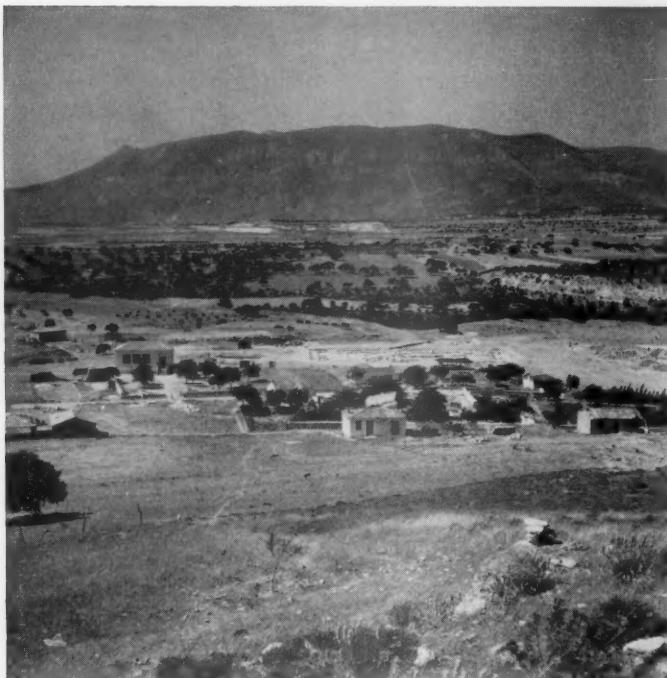
In the laboratory plaster reinforcement was added below and the burlap bandages removed from the top. Final cleaning and preservation prepared the bones for exhibition in the Arizona State Museum.

THE ISTHMIAN SANCTUARY OF POSEIDON

By Oscar Broneer

Director, University of Chicago Expedition to Isthmia

General view of the Isthmian Sanctuary from the south. In the center is the foundation for the Temple of Poseidon; the mountain in the background is the Geraneion.



IN THE GREEK PANtheon Poseidon (Neptune) was Lord of the Sea, Tamer of Horses and God of Earthquakes. In this triple capacity—and he had other functions as well—he was worshiped in his favorite haunt on the Isthmus of Corinth. This narrow strip of land, washed by the waves of two seas, the Corinthian and the Saronic Gulfs, is frequently visited by destructive earthquakes. In the division of land, as told in the Greek myths, it was natural that this region should become the domain of Poseidon, while the isolated peak of Acrocorinth was awarded to his competitor, the Sun-god Helios, and later ceded to Aphrodite.

The cult of the Isthmian Poseidon originated at an early time. In the Corinthian legend it was Sisyphos, the crafty King of Corinth, who founded the Isthmian Games under Poseidon's patronage. The Athenians connected the origin, or reorganization, of the games with the exploits of their national hero Theseus, who claimed descent from the Sea-god. The games became a Pan-hellenic festival early in the sixth century B.C., and continued to be celebrated every other year throughout ancient times.

Until recently our knowledge of the Isthmian Sanctuary derived chiefly from brief descriptions in ancient

authors and from inscriptions on stone found on the site. Some of the secular buildings, such as the Theater and the Stadium, have always been recognizable, but the Precinct and Temple of Poseidon have long eluded the search of archaeologists. Their location was first established in 1952, in a brief exploratory campaign conducted by a University of Chicago expedition. Then in the spring of 1954, in a large-scale campaign that lasted seven weeks, the whole temple area was excavated, the sacred precinct was explored, and many trenches were dug in the surrounding territory.

As a result of these excavations we can now sketch the general outline of the history of the Temple of Poseidon and his sanctuary at the Isthmia. The earliest remains—if we omit a few prehistoric vases which have no direct part in this picture—go back to the end of the seventh century B.C. Then, a temple of impressive size and of very archaic form was constructed. The foundations and socles of the walls were made of squared stones, but most of the superstructure consisted of sun-baked bricks. Ceiling, roof construction, and possibly even columns were made of wood—at least none of those parts of the building has come to light in the excavations. Roof tiles of terra cotta, of a very primitive character, were found in large quantities. These remains, together with some cuttings in the rock showing the lines of foundations, and the votive offerings described below, tell the story of the building that was the center of worship at Isthmia from the end of the seventh century B.C. to the beginning of the fifth.

Although most of the architecture has disappeared, a multitude of objects brought as gifts to the god was



Temple of Poseidon. Blocks with drafted corners from foundation for north inner colonnade.

Temple of Poseidon from the northwest, at the close of the 1954 campaign.



THE ISTHMIAN SANCTUARY OF POSEIDON *continued*



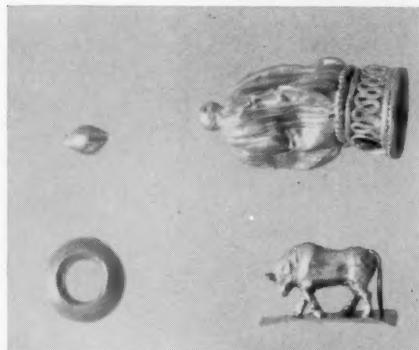
Bronze bull from archaic deposit. The bull was sacred to Poseidon. Height about three centimeters.



Corinthian *aryballos* found in the archaic deposit.

discovered beneath the floor level of the fifth century temple. Most of them show the effects of a conflagration which laid the archaic temple in ashes. What was salvaged in our excavation was hardly more than the discards and occasional pieces of intrinsic value which had somehow escaped the flames and eluded the search for loot following the fire. Even so, the collection of objects is impressive. It includes 135 silver coins from the late sixth and early fifth centuries B.C. All but a few are coins of Aegina and Corinth. To the Greeks of that era "Aeginetan turtles" were as eagerly coveted in the international money market as the American dollar is today. And the Pegasus on the Corinthian silver staters became equally famous a little later. In this large deposit of coins from the temple not a single Athenian owl appears, although the Athenians had special interest in the sanctuary and frequented the Isthmian Games in large numbers.

The coins were not a hoard, buried by some old miser against imaginary future needs. They were gifts to the god, brought by devoted and often terrified worshipers seeking favors from the Ruler of the Sea, the terrible Earth-Shaker. Though found within a comparatively small area, the coins were discovered one by one by the



Gold objects from archaic deposit. The gold bull, only one centimeter long, is a remarkable example of the goldsmith's art.

Aeginetan "turtle."



workmen as they painstakingly scraped away the earth with knives and wooden sticks, fearful lest some of the objects already damaged in the fire should crumble in their hands. Yet with all this care some of the smaller coins, coated as they were with earth and barely distinguishable from the pebbles mixed with the fill, escaped the eyes of the experienced workmen. But they were not lost. The earth was gathered in a pile and passed through a sieve and in this process many coins and even some small objects of gold were recovered.

Coin were not the only gifts brought by the faithful to the temple. With them were found graceful oil flasks and perfume bottles, exquisitely modeled bronze objects, including two bulls and two human figures possibly representing actors in a satyr play, but much corroded and partly melted into shapeless lumps in the heat that destroyed the building. Bronze helmets and bowls, some with inscriptions recording the dedication, were common offerings to the temple. The deposit includes finger rings of silver, bronze and iron, engraved sealstones, Egyptian scarabs and other trinkets. Doubtless many objects of gold had been brought to the temple by the well-to-do. Of these a few pieces have survived, including some tiny beads, the head of a pin, and one figure of a bull only a centimeter long but modeled with such attention to details that it suffers nothing from enlargement many times its actual size.

In the forecourt of the temple stood a marble water font (*perirrhanterion*) of intricate design. Three female figures, each standing on a lion and holding its tail in one hand and a leash in the other, supported a large shallow bowl made of the same blue marble as the figures. The head of one lion, the lower part of a female figure, and pieces of the marble bowl have been found; with the help of these and of similar figures from Olympia, Rhodes and elsewhere, it is possible to restore the font in its entirety. The base on which it stood has been recognized in a circular slab of common stone still standing, apparently in its original position, near the entrance to the archaic temple.

When the building was demolished after the fire, early in the fifth century, some of the debris was left on the site and used as bedding for the floor slabs of the later temple; but most of it was thrown down the edge of a gully a little to the north of the temple.

Not long after the destruction of the archaic building, perhaps about 460 B.C., a new temple, larger and of more modern design, was erected on the same site. It was a splendid structure, whose closest parallel in the Peloponnese is the Temple of Zeus at Olympia, erected about the same time. The Poseidon temple, which was somewhat smaller, never attained the fame of its Olympia rival. We know nothing about the architect or about the cult statue of the god beyond its position in the *cella*.

The new temple was made of common stone quarried in the vicinity. The surfaces were smoothly finished and covered with a fine stucco of marble dust which gave the building the appearance of a marble structure. The whole roof was of marble, and sculptural groups decorated the gables. The small pieces that have been found bear the unmistakable imprint of Greek sculpture at its best. These were discovered in the temple area mixed with the fill from the archaic building, but marble roof tiles, most of them blackened by fire and partly turned to lime, were extracted in large numbers from the ancient dump to the north of the temple. For the fifth century temple too, although built of stone, was destroyed by fire. From a brief reference in Xenophon's *Hellenica* (IV. v. 4) we know that a fire broke out in the temple in 394 B.C. The upper parts of the building suffered most, since the ceiling and the roof construction were of wood. Much of the stone masonry still remained in usable condition, but the upper parts of columns and walls had to be demolished and replaced with new material. In one instance a column capital, which had doubtless been used in the fifth century temple, was recut into a corner triglyph for the frieze of the fourth century reconstruction.

We are better informed about this reconstructed building than about its fifth century predecessor. The outer form of the temple does not seem to have been altered,

Silver coins of Aegina and Corinth.



THE ISTHMIAN SANCTUARY OF POSEIDON *continued*



Sculptured eaves-trough of marble (raking *sima*) from Temple of Poseidon, fourth century B.C.

Section of marble eaves-trough, restored. Drawing by George V. Peschke.



Terra-cotta heads, possibly representing priestesses.



nor is there any reason to assume that the interior arrangements were greatly changed, but a new cult statue must have been made, since the earlier one could hardly have escaped damage from the fire. The most interesting remains of the fourth century reconstruction are from the roof. Again the tiles were made entirely of marble. At the edge of the gables there was a molded *sima* and on the flanks ran a continuous eaves-trough (horizontal *sima*) sculptured in sections measuring 1.41 m. in length. In the center of each section was a large lion's-head spout and at the ends were half palmettes fitted to their counterparts in adjoining sections. We do not know whether there were any pedimental sculptures in the fourth century reconstruction. No fragments of such groups have been recognized, and we may assume that they did not exist. Certainly the sculptures of the fifth century temple could not have survived the fire.

The later history of the building is more difficult to trace. In Roman times the interior walls and the floor seem to have been covered with marble veneer, and many sculptural groups and other works of art were set up in the antechamber (*pronaos*), within the cella, and probably also in the rear chamber (*opisthodomos*). Fragments of marble sculpture of Roman workmanship were found within the temple, but most of them are very small. A colossal statue of a seated goddess, discovered in a trial trench in 1952, may have been part of a group consisting of Poseidon and his wife Amphitrite. Within the temple were also found many pieces of a marble frieze representing some figures in lively motion. The largest of the slabs preserves the figures of Artemis drawing the bow and Hermes standing in quiet pose, looking in the opposite direction. It has been suggested that at least a part of the frieze contained a pictorial representation of the slaying of the children of Niobe. She was the tragic mother who incurred the vengeance of Leto and of her children, Apollo and Artemis, for her boastful reference to her offspring. The figures of the frieze are small—the slabs measure only about half a meter in height—and it is likely that this interesting group formed the sculptural decoration of the base of some large statues, perhaps the group partly preserved in the colossal figure just mentioned.

The traveler Pausanias, who visited the Isthmian sanctuary on his way from Athens to Corinth in the second half of the second century after Christ, describes a whole series of sculptures, some of bronze, some of gold and ivory, that he saw within the Temple of Poseidon. We



Marble relief, probably from statue base. On the right Artemis stretches her bow to shoot down one of the children of Niobe; on the left is Hermes.

discovered many crumpled pieces of gold foil which doubtless had been used to cover figures of stone or wood in chryselephantine statues.

We are puzzled by Pausanias' statement that the Temple of Poseidon was "not very large in size." By any standard it was a large building, nearly twice as large as the Hephaisteion (Theseion) in Athens. Perhaps the traveler made this enigmatic remark about the Temple at the Isthmia by comparing it with the Temple of Zeus Olympios or with the Parthenon, described in an earlier section of his travelogue.

The classical building was demolished in the sixth century after Christ when Victorinus, one of Justinian's engineers, built a massive fortification wall for the defense of the Isthmus together with an extensive fortress located some 400 meters to the east of the sanctuary. The Temple of Poseidon and other pagan structures offered convenient building material within easy reach of the defenses. In the debris filling the trench of the removed

foundation for the north colonnade of the Temple of Poseidon we found a hoard of 270 bronze coins of the sixth century A.D. Many are coins of Justinian I (A.D. 527-565), nearly half of them were minted during the reign of his successor, Justin II (A.D. 565-578), a few are coins of Tiberius II (A.D. 574-582), and some are small, poorly minted pieces of the kind erroneously called Vandalic. The hoard must have been buried only a few decades after the destruction of the temple and the rebuilding of the Isthmian wall.

The Temple of Poseidon stood in the center of a rectangular precinct which in late Roman times was surrounded by walls. On the south and west sides were colonnades in the Ionic order facing the temple. Much of the adjoining area had a macadam pavement, and foundations for statues and monuments of various kinds have been found in the sacred precinct.

Prior to the campaign of 1952 we discovered a gold earring of the fourth century B.C. in perfect condition



Built-in bathtub in house of priestesses (?) on the ridge.

lying in the grass on top of the ridge overlooking the Temple site. Fragmentary roof tiles and bits of pottery lay scattered about in the same area. These discoveries seemed to warrant a systematic investigation of the ridge, which we carried out in 1954. At the highest point, where the earring was found, there had probably once been a small shrine. We found no parts of the building that could be identified, but some significant cuttings in the rock, a small Doric column capital and several deposits of dedicatory vases indicate the existence of a cult house somewhere in the vicinity. A larger area was cleared farther east and here remains of dwellings were found, including one which contains a very well preserved bathtub partly cut out of rock and lined with cement. It has the usual shape of bathtubs of the fourth century B.C., with a seat at the broad end and a circular depression in the floor at the opposite end. Since the total length of the tub is only one meter, it would have been too small for immersion. The user took the bath in a sitting position, probably with the aid of an attendant who scooped the water out of a small tank nearby. Pieces of terra-cotta bathtubs of similar shape were found strewn over the area.

There are other indications of permanent inhabitation of the hill: parts of millstones, numerous water jars, some with stamps on the handles, and terra-cotta loomweights in large quantities, a few marked with exquisite seal impressions. The most remarkable feature of the whole settlement is a series of cisterns which seem to have been

made chiefly for the collection and storing of rainwater from the roofs. The inhabitants apparently found it more convenient to use the water gathered in this fashion than to carry the jars laboriously from the spring at the bottom of the hill, as is the practice of the villagers at the present time. Most of the cisterns are comparatively small and of simple construction, but there are several groups of containers, each consisting of one or more rectangular basins and two circular vats standing side by side. In some cases, but not in all, these several containers of a group were connected by channels on the top. It is possible that some of these were to be used for wine making, but the less elaborate type can hardly be anything but cisterns for the storing of water.

The nature of the objects found on the ridge—the dedicatory vases, the gold earring, terra-cotta figurines of women and of Eros, the bathtubs and the loomweights—point to activities in which women played a predominant role. We may conjecture that the settlement housed a college of priestesses and temple servants from one of the many cult places at the foot of the ridge.

The first full-fledged excavation campaign at the Isthmia proved rewarding beyond expectation. True, the Temple of Poseidon had been deplorably stripped of its stone construction, but the foundation trenches are impressive even where all the stones have been removed, and the architectural members found scattered over the temple site will make it possible and worth while to undertake a detailed study of the building. The year's campaign has resulted in a clarification of the topographical problems and has given us an insight into the opulence and splendor of Poseidon's cult at the Isthmia.

Many buildings still remain to be discovered and investigated. A search for the Temple of Palaimon, which Pausanias saw on the left of the entrance to the precinct of Poseidon, had to be deferred because of the lateness of the season. The field in which this building is likely to be found had been planted to wheat, and the reaping and threshing could not be done until the very end of our excavation campaign. Temples to other gods are known to have existed in the vicinity, and other buildings, including the stadium, a palaestra, and a gymnasium, would have been required for the celebration of the Isthmian Games. The discovery of these, the further exploration of the Isthmian wall, and a more complete survey of the whole terrain are some of the tasks that will be waiting when the expedition returns to continue its work at the Isthmia.



ARCHAEOLOGICAL NEWS

Anniversary Meeting of AIA

The fifty-sixth General Meeting of the ARCHAEOLOGICAL INSTITUTE OF AMERICA, December 28-30, 1954, brought the society together to celebrate its seventy-fifth anniversary at Boston, its birthplace. The meetings at the Sheraton-Plaza Hotel, held in conjunction with the American Philological Association, were well attended. The Local Executive Committee deserves much credit for the success of the conference.

The sessions began with the Annual Meeting of the Council, at which the Institute's business was transacted. The slate of officers proposed by the nominating committee was voted into office for the coming year: Henry T. Rowell, President; Carl W. Blegen, Vice-President; Cedric Boulter, General Secretary; and Christine Alexander, Recorder. An important item was the announcement of the transfer of the General Secretary's office from Cambridge to Cincinnati.

The papers presented at the first session, Tuesday afternoon, reported the results of excavations and studies in the Greek area. J. Lawrence Angel discussed stature change and sociological-biological development during prehistoric and historic times on the basis of newly excavated human bones from Lerna, Mycenae and the Agora at Athens. The discovery of a palace of the Early Helladic Period at Lerna was reported by John L. Caskey. Following J. Walter Graham's argument for the location of the Cretan bull ring in the palace courtyards, George E. Mylonas described the New Grave Circle at Mycenae which is reported in his article in this issue. Alan J. B. Wace also reported on his season's work at Mycenae, mainly in the so-called House of Shields and House of Sphinxes. The session ended with two more papers on Mycenaean subjects. Jane E. Henle considered criteria for judging a decipherment of the Minoan script while Sara

A. Immerwahr re-examined some Mycenaean vase-painters.

Wednesday morning's symposium on Roman colonization was opened by E. T. Salmon, who pointed out that the colonies of the "Latin name," despite the fact that they were soon replaced by other types, were of supreme importance in the formation of the concept of Roman citizenship and hence in the development of Rome's empire. Paul MacKendrick, using numerous aerial photographs, illustrated the similarity in the ground plan of the Roman colonies and argued that the plan was very likely derived from Etruria. Lawrence Richardson, chiefly on the basis of terra-cotta temple ornamentation, demonstrated that before 200 B.C. the colonies used a "colonial style" derived from the architecture of their neighbors and not from Rome but that after that time Rome developed its own distinctive style and this is reflected in the colonies. Doris Taylor provided an analysis of Cosa's foreign trade relations based on her study of the black-glazed "Campanian" pottery found on the site as well as in Sardinia, Corsica, Sicily, Gaul and Spain.

The symposium on "Homeric Backgrounds," held jointly by the AIA and the APA in the New Lecture Hall of Harvard University, began with Carl Blegen's description of the latest excavations at Pylos, in particular the area of the principal gateway to the palace court. Carl Roebuck, reviewing the history of Ionia, pointed out that the finds from Old Smyrna support the theory of a Greek migration to this area in the eleventh century B.C. Emmett Bennett discussed a certain group of Linear B tablets from Pylos and showed how by pure deduction he was able to conclude that these dealt with landholdings. When Ventris later deciphered the tablets it became clear that the group of landholders involved was predominantly religious in composition.

James Notopoulos closed the session with a discussion of Homeric formulae and originality.

At the joint annual banquet Wednesday evening the speakers honored the past, present and future of the ARCHAEOLOGICAL INSTITUTE OF AMERICA. After Sterling Dow surveyed the events connected with the founding of the Institute, the guests were privileged to hear from Harold North Fowler, who seventy-five years ago took part in organizing the original society. His reminiscences of the founding will long be remembered by those present. The story of the excavations sponsored by the Institute and the work of the various schools which have taken up the task was set in the perspective of the last seventy-five years by William B. Dinsmoor. Richard B. Stillwell, the editor of the AMERICAN JOURNAL OF ARCHAEOLOGY, spoke on the publications of the Institute, and Henry T. Rowell, the President of the AIA, brought the speeches to a close in addressing himself to the problems of the Institute's future.

Three sessions for the reading of papers were held on the last day of the meeting, two in the morning and one in the afternoon. One morning session dealt exclusively with Greece, and except for Oscar Broneer's report on the temple of Poseidon at the Isthmia (see his article in this issue) exclusively with Attica. Other reports on recent excavation were by George E. Mylonas on new material from the cemetery at Eleusis and by Homer A. Thompson on the status of work at the Athenian Agora in 1954. Thalia Phillips Howe argued that the attributes of the triple-bodied monster of the Acropolis are suitable to Zeus Herkeios. Matthew I. Wiencke discussed the newly-cleaned east frieze of the Hephaesteion in terms of dating. D. A. Amyx pointed out the likely association with Alcibiades of Panathenaic amphorae included in a list of confiscated property. Roads and

road construction in ancient Attica formed the subject of John H. Young's paper.

The other morning session was concerned with the archaeology and art of Western Asia and relations with Greek art. The two strictly archaeological papers were Machteld J. Mellink's report on a preliminary survey of Bronze Age sites in Lycia and Emmanuel Ben-Dor's discussion of pottery from a Phoenician cemetery on the northern coast of Palestine, which has closer links with pottery from Phoenician sites in Carthage and Sicily than with other Palestinian pottery. The remaining papers were concerned with artistic problems. They included Helene J. Kantor's discussion of the Oriental forerunners of Greek plant designs, Edith Porada's paper on Greek influence on a fifth century B.C. seal-cutter from Ur, Dorothy B. Thompson's report on an unpublished portrait of Arsinoe II representing the Ptolemaic queen as deified, and Berta Segall's discussion of Hellenistic sculpture recently found in South Arabia which provides evidence for dating some South Arabian cultures.

The last session provided papers on a variety of classical subjects. Recent additions to his collection of Greek vases were reported by David M. Robinson. The successful reassembling of a life-size bronze statue recovered in 1900 from an ancient shipwreck was described by Rhys Carpenter, and three bronze hydriae in the Metropolitan Museum of Art by Dietrich von Bothmer. Alfred R. Bellinger in his paper on the drachmae of Alexander the Great pointed to the economic rather than political distribution of mints in Alexander's empire. A vase adorned with three friezes of relief-figures, presumably from a tomb at al-Mina and to be dated to the first century A.D., was described by Christoph W. Clairmont. Eric C. Baade suggested that the House of the Little Fountain in Pompeii had certain features designed to give the illusion of a large house. The final paper, by Robert Scranton, described the city plan of twelfth century Corinth as an important document of Byzantine architecture.

The final event of the meeting was the showing of three films, all in color, on archaeological subjects. The first was on the striking Palaeolithic cave paintings at Lascaux in the Valley of the Dordogne, France. The other two were both by Ray Garner: BE-TA-TAKIN, "House Under the Rim," the story of an Arizona pueblo of seven hundred years ago, and EGYPT, the

magnificently filmed record of ancient Egyptian civilization which was first presented to the AIA at the 1953 meeting.

Splendid exhibits had been arranged for the meeting by museums and libraries. The Museum of Fine Arts, Boston, presented "Famous Ancient Masterpieces from American Museums," while the Fogg Art Museum had two fine exhibits, "Ancient Art in American Private Collections," which, like the Boston Museum show, included examples of Near Eastern, Egyptian, Greek and Roman art; and "Hellenistic Art in Asia," including Parthian and Gandharan material. The Houghton Library of Harvard showed archaeological publications of the last five centuries while the Widener Library had on view publications of the AIA representative of its seventy-five years of existence. An exhibit of coins lent by members of the Boston Numismatic Society was displayed in the hotel lobby. Even an enterprising bank, the Institution for Savings in Roxbury, had in the window of its Back Bay branch an exhibit of ancient art from the Fogg Museum collections as a salute to the anniversary meeting. A felicitous opportunity to see the Fogg exhibits was provided by the buffet luncheon at the museum tendered by Harvard University, the good genius of that society of three-quarters of a century ago which became the ARCHAEOLOGICAL INSTITUTE OF AMERICA.

Egypt Center Address

For the information of students and others who may wish to communicate with the American Research Center in Egypt, its present address is: Isis Building, Sharia el Walda, Garden City, Cairo. The telephone is: Cairo 27076. The Director, Dr. Bernard V. Bothmer, reports much interesting work being undertaken by archaeologists in Egypt. Accounts of their projects and the results will appear in future issues of ARCHAEOLOGY.

University Museum Expeditions

Egypt's Department of Antiquities and the University Museum of the University of Pennsylvania are currently joining forces to explore a long-buried part of the temple of Ptah at Memphis, capital of ancient Egypt. The main temple of Ptah—chief Egyptian divinity in early times—was excavated early in this century, but some of its satellite buildings remain to be unearthed. The new excavation site was discovered accidentally by road-builders. After World War II they came upon the rem-

nants of certain chapels at what apparently is the southwest corner of the temple precinct. Dr. Mustafa Amer, director of the Egyptian Department of Antiquities, will be in over-all charge of the project. Dr. Ahmad Badawi, an Egyptian university professor, will be a consulting authority. Representing the museum will be John M. Dimick, project director, Dr. Rudolf Anthes, curator of the Egyptian section, and Dr. Henry G. Fischer, assistant curator.

The University Museum's 1955 campaign at Gordion in Turkey should get under way about April first and continue (with a break during the harvest) until about October 20. Rodney Young will be in charge of the spring and summer work, Roger Edwards in the fall. Ellen Kohler will as usual run the indoor work—cataloguing, cleaning, mending, etc.; and Christofis Polycarpou of Curium in Cyprus will undertake the surveying and architectural work. Neophyte excavators will be David Crownover of the University of Pennsylvania and Robert Barnes of Colby College; Theresa Howard Carter of the University Museum will identify and study the animal bones, an innovation for Gordion. At the close of the spring term Mabel Lang and Machteld Mellink from Bryn Mawr and Mr. and Mrs. Curtis Dahl of Wheaton College will join the staff. Objectives of the 1955 campaign will be to lay bare more of the Persian Empire building which was decorated with wall paintings dating from about 500 B.C.; to clear all the area to the west of the city gate from the Persian down to the Phrygian level; and in particular to open the great stone-built gateway of the Phrygian city, which is known to stand to a height of about twenty-five feet and which, when cleared, should be one of the most impressive ancient monuments of Asia Minor.

Classical Meeting at Oxford

An interesting meeting devoted to Classics and Classical archaeology is scheduled to take place in Oxford, England, from August 4th to 11th. Conducted by a joint committee of the Greek and Roman Societies, the program will present lectures by a number of authorities, including Sir John Beazley, Mr. J. B. Ward-Perkins and Professor Luisa Banti. Visits are being arranged to libraries, colleges and country houses. The detailed program and information concerning cost and accommodations may be obtained from the Secretary, Miss Louise B. Turner, Bayston, Cross Oak Road, Berkhamsted, Hertfordshire, England.



Left: The Tyche of Kapilavastu, Gandhara, second century A.D. Part of schist frieze from Charsada, northern Pakistan. Height 7½ inches. In collection of Major-General H. L. Haughton, Blewbury, England. Right: Votive relief in limestone of the Gad or Tyche of Palmyra, A.D. 159. Graeco-Parthian relief from Dura Europos. Height 19 inches. Yale Gallery of Fine Arts.

Hellenistic Art in Asia

(This report is by Dr. Benjamin Rowland, Jr., who arranged the exhibit.)

The exhibition of Hellenistic art in Asia, held at the Fogg Art Museum between December 28, 1954 and February 15, 1955, was arranged to honor the Seventy-fifth Anniversary Meeting of the Archaeological Institute of America in Boston. As far as is known, this marked the first showing in this country of material representing the regions of the Orient influenced by the art of Greece and Rome. Although the title might lead some to suppose that the exhibition was devoted only to the familiar Graeco-Buddhist sculpture of Gandhara, actually the most interesting part of the show was the sections illustrating the art of the Seleucid Empire in Mesopotamia, Iran and Bactria and the examples of Parthian art in stone, metalwork, and ceramics. Although the exhibition was not organized with any fixed didactic end in view, the collection of objects, dated from the fourth century B.C. to the fifth century A.D., served to illustrate the vitality and persistence of Hellenistic ideals over the vast stretch of territory extending from the Euphrates to the Indus.

Installed as a frontispiece to the exhibition was the magnificent Lysippic head of Alexander from the Boston Museum, chosen as a symbol of the

conqueror responsible for the wave of Hellenism that swept over Asia in the centuries after his march to the Indus. The art of the Seleucid rulers of Iran was represented by two limestone heads of *sileni* that once decorated a sanctuary of Dionysus in the Nisaean plains of Media.

The art of the Parthian Empire included a wide variety of examples in many different media: sculpture and wall-paintings from Dura, terra cottas and alabaster figurines from Seleucia, glazed pottery vessels and a number of small sculptures in stone and metal. Among these later objects special mention should be made of a bronze statuette of Astarte, lent by the William Rockhill Nelson Gallery of Art, Kansas City. Sometimes identified as North Syrian, but probably a Parthian work from one of the former Greek cities in Mesopotamia, this object is related to representations of Venus Anadyomene as well as the Parthian conception of Anahita. The figure reveals a curious combination of voluptuousness with the frontality of the ancient Near Eastern portrayals of the Mother goddess.

A no less mysterious piece is the crowned head of a woman, lent by the Cleveland Museum. This object, although obviously Cypriot in origin, is reputed to have been found in the ruin fields of ancient Bactria. Certainly the possibility of such an import is not out

of the question if we think of the great hoards of early Greek coins found in Afghanistan. The Bactrian section also included a silver bowl from Olbia, lent by the Metropolitan Museum, and a number of coins from the superb cabinet of the Boston Museum.

One of the most striking sections of the exhibition displayed objects of Graeco-Roman origin imported to India and Afghanistan in the first and second centuries A.D. In addition to examples of Alexandrian metalwork from Taxila, lent by the Government of Pakistan, this collection included a number of Graeco-Roman terra cottas, sensitively modelled figurines from the vicinity of Peshawar that are the Indian counterparts of the Graeco-Parthian statuettes from Seleucia. Also exhibited were a number of steatite paterae with lively erotic scenes again reflecting an unmistakable Alexandrian taste and origin.

The Gandhara sculpture in the exhibition, although including specimens of the usual Buddhist figures, was selected primarily with the idea of illustrating the persistence of Hellenistic motifs and techniques as late as the second and third centuries A.D. The "Tyche of Kapilavastu," lent by Major-General H. L. Haughton, is an Eastern example of the Greek city goddess also represented in a relief from Dura Europos. Two fragmentary reliefs, a Parthian

clay frieze also from Dura and a door jamb from Gandhara, imitate to a remarkable degree the vine motif enframing Dionysiac or erotic scenes so familiar in the ornamental reliefs of Baalbek.

In addition to the stone carvings the collection of Gandhara material included a handsome display of stucco sculpture. There is a tendency to regard the work in this material as later than the sculpture in stone, but it has become more and more evident to the present writer that the decoration in lime plaster also belongs to the period before A.D. 241 when Gandhara became a Sasanian province. The head of a man, lent by the Nelson Gallery of Art, so closely approximating the pictorial style and passionate intensity of the Scopaic formula, provides a final dramatic proof of the vitality of the Hellenistic tradition in Asia even in its last phase.

Cyprus Dig

In the spring of 1955 a University of Missouri expedition to Cyprus is planning to conduct trial excavations at an early prehistoric settlement site not far from the village of Episkopi, district of Limassol, near ancient Curium. The site was visited in 1951 by Professor Saul Weinberg of the University of Missouri while working at a Late Bronze Age settlement near Episkopi, and the present excavation will be under his supervision.

If the site proves as productive as surface finds have indicated, excavations of larger scope are planned for the spring of 1957.

Investigations in Argentina (December 1953-March 1954)

(This report by Dr. A. R. Gonzalez was translated by Dr. R. P. Schaeldel.)

Under the auspices of the Argentine Society of Americanists, Buenos Aires, Dr. Alberto Rex Gonzalez conducted a series of archaeological investigations in the western valleys of the State of Catamarca. These are part of a project previously planned for the purpose of completing investigations in the valley of Hualfin, and of establishing bases for the correct chronology of the Diaguita area, of which this valley is almost the geographical center. Part of this program was accomplished in two former campaigns (1951-1952), the results of which were recently reported at the preliminary meeting of the first Round Table on Northwest Argentine Archaeology, in Buenos Aires.

The new investigation began at Londres, in the little valley of Chincal, west of Belén in Catamarca, where a

small nucleus of ruins was excavated. These were composed of big rooms, approximately four by ten meters, all surrounded by a wall and connected internally by a series of causeways, stairways, retaining walls, benches, etc. The rooms have walls of unworked stone with clay mortar, reaching in certain places to a present height of almost three meters. In a small bench attached to a wall was found a series of little seats, an unusual architectural detail in Northwest Argentina. A study of the ceramics obtained indicates that they were either entirely Incac or of Incac influence; strictly local ceramics are rare. Since this situation is repeated in a refuse heap in the vicinity and in another group of ruins nearby, there can be no doubt that the ruins represent one of the numerous Incac garrisons within the Northwest Argentine area, the existence of which is known from historical sources.

On certain hills in the vicinity of these ruins there are also remains of pottery showing Incac influence. One exception to this is the hill called "Loma Larga," where for the first time ceramics of the "Draconian" or "Barreal" type were found in a stone-walled habitation. This structure, some five meters long, has the form of a hill which was specially prepared for the purpose. The location and type of structure indicate a ceremonial use.

The second part of the investigations centered in the site of La Puntilla, near Belén. There a number of urns for the interment of children were excavated, pertaining to two distinct ceramic types. One has painted geometric motives of red-on-buff, the second type consists of black urns with incised geometric designs. In these urns the "Draconian" motive does not appear. In the cultural chronology of Northwest Argentina these finds would be placed in the phase designated as "La Ciénaga."

The third part of the investigations was conducted in the zone of Laguna Blanca in the Department of Belén. This zone, which probably constitutes the northwest limit of the region up until now known as Diaguita, was hitherto virtually unknown archaeologically. One of the reasons for this is the lack of good roads, so that one has to travel 150 kilometers over very bad terrain to reach the area. The ruins of Laguna Blanca cover many hectares. The most obvious ruins consist of great walled enclosures of irregular form and dimensions, ten to fifteen meters on a side, with some even larger, made of walls without mortar (*pirca*). These enclosures are similar to those which

the present-day inhabitants use for planting potatoes or *habas* (a local pea-like vegetable), for which reason one may infer a similar use in prehistoric times. In one case these enclosures cover several hundred hectares; from this one may postulate a former very dense population.

The excavation in Laguna Blanca revealed several distinct cultures. Fragments of pottery and burials were found corresponding to the cultures of Condor-huasi, La Ciénaga, Candelaria, and also to a period more recent, with influences from Belén and Inca. It is uncertain to which of these periods the enclosures for planting correspond, but indications point to the most recent.

In addition to the cultures with pottery and agriculture, one site was found which produced only stone implements, particularly various large blades and knives. It is presumed that this represents one of the pre-ceramic cultures which occupied this zone.

Another find of great interest in Laguna Blanca was a large group of petroglyphs in a place called La Torre; these belong to two distinct periods. The most ancient are figures of *guanacos* or extremely simple anthropomorphic figures, like those found in Patagonia in 1949. The more recent are anthropomorphic figures, complicated or elaborated, large faces with designs on the cheeks, or else figures of animals such as the tiger or puma rendered with great fidelity. In some instances the superposition of the more recent figures over the ancient ones is very clear.

The Laguna Blanca zone is an extraordinary archaeological center and there are many problems to be solved. We found remains of a road which apparently leads to the summit of the snow-capped Laguna Blanca (5,000 meters). The inhabitants state that the road ends in a series of constructions situated on the height of the snowcap. Adverse atmospheric conditions and lack of equipment prevented our reaching this point to verify the information; in view of the finds on Cerro Llullai-yaco and those of El Plomo in Chile, these should be of exceptional interest.

During January-March 1954, Dr. O. Menghin made a study of the zone between San Antonio in the southeast and Bariloche in the southwest of the Territory of Rio Negro. The exploration of the coast to the east of San Antonio (near the lighthouse of San Matías) produced evidence of the existence of two distinct classes of shell mounds of *Mytilus* shell. They are contemporaneous in time but spatially separated. The western group contains

the industry common to the mainland sites of the Rio Negro region; the eastern group lacks arrow points and probably represents the last manifestation of a more primitive culture. In the vicinity of Ingeniero Jacobacci, at about eight hundred meters above sea level, great deposits of a pre-ceramic culture were discovered. This culture is characterized by magnificent foliate points of considerable size and by lack of grinding stones and *manos*. It may date to the early post-glacial period. In addition, a cave discovered by the founder of the local museum, Sr. Rodolfo Casamiquele, was excavated. The principal layer of this showed a lithic industry attributable to the Casapendense I, of the early post-glacial, found also in the caves of Los Toldos, Territory of Santa Cruz (see Menghin: *Runa*, tomo V, page 39). In the same region are found numerous cave paintings with complicated grecques like those already known from the vicinity of Nahuel Huapí. Contrary to his previous opinion (see Menghin: *Runa* V, page 14), Dr. Menghin concluded on the basis of his recent studies that these paintings are pre-Araucanian. He would also conclude the same about the engraved plaques and decorated ceremonial axes which abound in the zone of the Rio Negro and Chubut. All these elements are completely lacking in Araucania proper, where the ceremonial axes have an absolutely different character. In the caves of the Estancia San Ramón, on the shores of Lake Nahuel-Huapí, excavations and studies of paintings were carried out. In this section no pre-Araucanian remains were found.

Twelfth Plains Conference

(The following report was contributed by the chairman of the Conference, Dr. William Mulloy of the University of Wyoming.)

The twelfth Plains Conference for Archaeology was held at the University of Nebraska in Lincoln, Nebraska, November 25-27, 1954. The session began with registration on the first morning, which provided an informal opportunity for members to renew acquaintance and exchange ideas while viewing the exhibits brought by various members and displayed in the Department of Anthropology. About sixty-five registered members were present as well as a number of visitors.

The afternoon was devoted to a series of short field reports describing activities during the past year. These reflected investigations from all the Plains States and indicated that field

work is still vigorous despite some curtailment of the Inter-Agency Archaeological Salvage Program in the Missouri Basin. The field reports proved too numerous for this session and some were held over until the third day.

The second day was devoted to ethnological and social anthropological subjects, a new development this year. This part of the program was planned and directed by Dr. John M. Roberts of the University of Nebraska. A wide variety of subjects was covered, ranging from ethnological information recovered from the work of early artists and photographers to social problems arising from the displacement of modern populations in areas covered by reservoirs. It was hoped that this program would include a symposium on problems and prospects in Plains Ethnology, but special papers were too numerous. This new development proved to be unusually successful and the papers were heard with much interest. The hope was expressed that this kind of material will be included in future Plains Conferences, for it not only provides a local focal point for ethnological communication but encourages significant cross stimulation between this field and archaeology.

During the evening, through the cooperation of Mr. Marvin Kivett, the members of the conference were the guests of the Nebraska State Historical Society Museum; this provided an opportunity to see the museum's unusually fine collections. Mr. Kivett and Dr. E. Mott Davis of the Department of Anthropology of the University of Nebraska gave a lecture dealing with problems and techniques of presenting anthropological subjects on television programs. A sample program was presented, followed by a reception.

The third morning of the conference was given up to a series of papers dealing with non-agricultural and pre-agricultural manifestations, principally in the western part of the Plains region. As on the previous day, it had been planned to include a symposium on problems of chronology in the western region, but once more the number of papers offered prevented this. The number and variety of papers indicated an increasing interest in this aspect of Plains prehistory. It has been a long neglected area, due partly to the difficulty of dealing with the materials and partly to the fact that more spectacular agricultural and ceramic materials have claimed the attention of research workers. The papers indicated that a chronological structure of some depth is developing for this area and that a

considerable amount of evidence is accumulating to explain what went on during the long and hitherto almost unknown time gap between Early Man materials and immediately prehistoric manifestations. It is hoped that interest will continue in this still largely unexplored field.

The third afternoon session was devoted to the overflow of field reports and several other papers. A business meeting was also held. Dr. Donald J. Lehmer of the University of Washington was elected chairman for the year to follow. A resolution was passed extending sincere thanks to Dr. John Champe and his staff for making available the facilities of their department and helping to arrange the program; to the chairmen of the various sessions; and to many others whose aid made the conference possible. Dr. Champe again hospitably offered the services of his department for next year's meeting.

Current Research on Middle East

The Middle East Institute, a private organization in Washington, D. C., is preparing for publication an annual Survey of Current Research on the Middle East. The purpose of this Survey is to provide scholars and educational institutions with information on what research has recently been completed or is now being undertaken.

Definition of research: (1) accumulation of original data; (2) classification of original data; (3) interpretation of data previously accumulated; (4) reinterpretation of data previously studied; (5) translation, bibliography, vocabulary, etc., with annotation.

Geographical limits: the Arab countries, Israel, Afghanistan, Iran, Turkey, North Africa, the Sudan, Ethiopia and Eritrea.

Disciplinary limits: emphasis on social sciences, but including related aspects of humanities and natural sciences.

Chronological limits: none (ancient, mediaeval and modern).

All those who are currently engaged in research on the Middle East or have completed such research since October 1, 1954 are urged to submit the following information: name, address, topic of investigation, sponsoring organization (if any), date of completion or estimated date if still in progress, and pertinent comments on the nature of the research, sources being used and method of approach.

Please address correspondence to: Survey of Research, The Middle East Institute, 1761 N Street, N. W., Washington 6, D. C.



BRIEF NOTICES OF RECENT BOOKS

Popular Books on Mesa Verde

Cliff Dwellings of the Mesa Verde: A Story in Pictures, by DON WATSON. 52 pages, 53 figures. Mesa Verde Museum Association, Mesa Verde National Park, Colorado, 1953 \$1.00

Indians of the Mesa Verde, by DON WATSON. 188 pages, 24 figures. Mesa Verde Museum Association, Mesa Verde National Park, Colorado, 1953 \$1.00

The picture book *Cliff Dwellings of the Mesa Verde* is completely new, but *Indians of the Mesa Verde* is a third, much revised and expanded edition. Both of these books tell somewhat the same story, the prehistory and history of the Mesa Verde, the first by photographic illustration as well as by words, the second largely, and far more fully,

by words. They are, however, by no means identical in subject matter, and therefore anyone interested in this area will probably want both.

In the picture volume questions of a general nature are discussed concerning the park and particularly the archaeological sites. Carefully chosen and excellent photographs illustrate the discussions.

The second and larger volume is divided into two parts. The first, "The People of the Mesa Verde," gives the history of discovery, and in some detail describes life in these ancient times. An examination of the everyday activities of the people who lived here is viewed as though by a spectator through the four seasons. The end of the occupation is ascribed to the great drought and perhaps the pressure of

unfriendly people. The second part, "The Archeological Background," includes a brief discussion of the origin of the American Indian and the general archaeology of the park. This latter section is descriptively and less imaginatively written.

Don Watson has done an excellent job of these two books, making them entertaining and informative as well as authoritative. His years of close association with the park have assured the choice of interesting content and reliability of interpretation. The most useful portion of these books to the professional archaeologist or Southwestern specialist is the history of the discovery of the Mesa Verde sites, particularly the activities of the Wetherills and Charles Mason. There are also some details concerning structures, and men-

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as well as another picture article in our museum series,
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tion of more recent finds, which should be of interest to everyone. Taken together, these two books explain the park, its prehistoric ruins and people, most adequately.

Minor criticism might be raised on some points, such as the lack of distinction between what is found in the general Southwestern area and what is found only in the park. There is also a tendency to reiteration, but it may have been intended for emphasis. Unfortunately the printing process used does not make the most of the excellent photographs, but on the whole they are good.

Proceeds from the sale of these books, as well as all others published by the Southwestern Monuments Association, revert entirely to the association and are used for publication of other books dealing with the monuments of the Southwest. Through the years this sum has been gradually increasing, and other papers, similar to these, are soon to be released. This reviewer is sympathetic with the aims of this group and enthusiastic about the objectives it has attained.

JOHN C. McGREGOR

University of Illinois

Ornamental Arts in Britain

Anglo-Saxon Jewellery, by RONALD JESUP. 148 pages, 11 figures, 44 plates (4 in color). Frederick A. Praeger, New York 1953 \$7.50

The jewelry of the Anglo-Saxons, which is related to the magnificent work of the German tribes of the Migration period, is here given a new presentation, accompanied by excellent illustrations. While dealing in part with the wider geographic setting and relations of Anglo-Saxon jewelry, Ronald Jessup is most interested in placing this jewelry against its immediate background in the British Isles. Beginning with the invasions of the British Isles, he develops the settlement of the Jutes, Saxons and Angles in terms of Cyril Fox's Lowland and Highland zones and the valley network through which they penetrated into England. After considering relations between the invaders and the Romano-British survivors, Jessup discusses the Anglo-Saxon settlements which have yielded scraps of ornament, and then their graves which have furnished the bulk of their known jewelry.

Notwithstanding the slimmness of his

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treatment of the influence of Romano-British survivals and contemporary Keltic work, Jessup's discussion of the jeweler, his status and his relation to moneyers and smiths is excellent. Although Baldwin Brown in his monumental work, *The Arts of Early England*, gives a more thorough presentation of the techniques of Anglo-Saxon jewelry, Jessup presents a fresh summary of the ways of working gold, silver and bronze, and the manner of handling semi-precious stones as well as glass, amber, meerschaum and enamel. The jewelry itself is classified in terms of where it was worn on the body, on the basis of evidence from graves. It is then treated broadly according to its general history and type.

Jessup brings his interesting book to a close by presenting the literature of Anglo-Saxon antiquarianism in its historical setting, particularly in Kent, where he himself has devoted so much time to exploration. Here one finds an account of early antiquaries such as Bryan Faussett, the Reverend James Douglas and the wealthy Albert Denison, first Baron Londesborough, whose efforts led not only to the rich collections of Anglo-Saxon art in the British Museum and the Ashmolean, but to the formation of the British Archaeological Association and the many local societies. Their efforts in the field have made known to us the history of this brilliant Anglo-Saxon jewelry.

HOMER L. THOMAS

University of Missouri

Weights and Measures

Historical Metrology, by A. E. BERRIMAN. xvi, 224 pages, 65 illustrations. J. M. Dent and Sons, London 1953 \$3.75

This book was written to explain the historical background of the English metrological system and show how deep-rooted in antiquity it is. An introduction not only makes clear the terminology and symbols used throughout the book but also presents parallels and equivalents which the author has found between various ancient and modern systems of metrology. These systems (including Indian, Chinese, Babylonian, Egyptian, Palestinian, Greek, Roman, French and English) are examined in greater detail in the following chapters. The translation of the various units of these systems into each other is helpful in pointing up parallels, but the reader would appreciate in addition one single standard in terms of which all units and calculations would be more meaningful.

This valuable collection of difficult material is marred by occasional over-emphasis on the kind of coincidences that are bound to occur even among utterly unrelated systems because the standards are ordinarily based on such common things as the lengths of various parts of the human body, the weight of various seeds, and the capacity of gourds and skins. It is difficult, for example, to imagine why the architect of the Great Bath at Mohenjo-

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daro should have laid out its length in Indus inches and its breadth in Greek fingers in order to achieve an area in English square inches or yards (pp. 40 ff.), especially since metrological systems are useful only insofar as they do away with a multiplicity of units of approximately the same size.

The source material for Greek metrology has not been thoroughly explored, so that the author can speak of a Greek foot as if there were not different standards used by different city-states, and he can base that Greek foot on outmoded measurements of the Parthenon. Despite such difficulties of interpretation, the book remains a mine of fascinating bits of metrological information.

MABEL LANG
Bryn Mawr College

Religious Transition in Egypt
Cults and Creeds in Graeco-Roman Egypt, Being the Forwood Lectures for 1952, by H. IDRIS BELL. x, 117 pages. Philosophical Library, New York 1953 \$4.75

Sir Harold Bell is the dean of papyrologists in England and perhaps anywhere, with the recent deaths of Hunt, Wilcken, Jouguet, and Wenger. In this little book he draws upon his wide knowledge and rich wisdom to sketch the history of religious thought and practice in the land of the Nile during the formative period of Christianity.

No one could do it better. It is an

advantage that he writes rather as a historian than as a professed student of religion. He knows the papyri and inscriptions of Egypt intimately, while his concern with the later periods of antiquity has familiarized him with the writings of the Fathers. We learn of the people of Egypt and of their mentality through thousands of ephemeral letters, accounts, deeds and contracts, petitions and reports and dedications, supplemented by governmental decrees and notices, published in a scattered and unsystematic fashion. It is not the least merit of this book that it serves as a guide to the documents which, in the eyes of the author, contribute to the mixture of races and cultures—Egyptian, Greek, Jewish, Oriental—which produced that "composite religion made up of many strands, rising at its highest to a singularly noble monotheism, but at its lower levels tailing off into magic and theurgy; a religion which to souls sated with the material, humdrum security of the Roman Peace in the second century or scared by the perils and disasters of the third offered release from the iron shackles of Fate, a revelation of divine Truth, and union with the Godhead. Its points of resemblance to Christianity are obvious; but we shall not appreciate what was at stake in their mutual struggle, we shall not even fully apprehend the issues involved in the Arian and Monophysite controversies within the Christian Church, unless we know something of ancient pagan-

ism in its latest form."

For it is the thesis of the author that religion is central to the problem of the Roman Empire, and he would deny that its increasing religiosity was a revival of superstition, still less a "failure of nerve." "A profounder view will see in it, despite the superstition, the trickery, and the occasional absurdity, evidence that human nature has religious instincts and spiritual perceptions which cannot be satisfied indefinitely by a materialistic rationalism." The religious movement which produced Christianity and the Christian Church was not an escape but a realization. Persons turned from the futile monotony of the imperial service to the exciting dynamism of a new way and order, from imperfect expressions of purity, love, and hope to the full confidence of revealed truth. It is this theme which gives unity to the book's four rapidly-moving chapters, entitled The Pagan Amalgam, The Jews in Egypt, The Preparation for Christianity, and The Christian Triumphant.

Clear, simple and dramatic, *Cults and Creeds* will be read with profit by all students of antiquity. It should be read also by archaeologists, whose work takes them sometimes to the highest planes of ancient creativity but more often occupies them in excavations or museums with the unlovely products of the "Greco-Roman period," humble productions of ordinary people, in which only the strivings of popular religion provide a clue to their meaning. In pagan antiquity, almost "all things were full of gods," and religion must be the companion of archaeology, if we are to see aright.

C. BRADFORD WELLES
Yale University

Guide to Greece

Grèce, by FRANCIS BAULIER. Ixxxix, 703 pages, 7 figures, 79 plans, 40 maps. Librairie Hachette, Paris 1953 (Les Guides Bleus) 1800 frs.

The announcement of the publication of a new *Guide Bleu* for Greece was the occasion of general rejoicing among philhellenes, since the need for an up-to-date revision of the 1935 edition was obvious. Hopes were quickly damped, however, when the new edition appeared late in 1953. This reviewer was among the disappointed, and after using the guide for six months in Greece his disappointment has been

mingled with distrust. This is not an up to date revision of the 1935 edition; it is essentially the same with but minor changes, and these often for the worse. Of the fifty-three pages added, thirty-six are sections on air, rail and steamship lines which were previously paginated with Roman numerals, and since twenty-one pages have been added on Rhodes and the Dodecanese, now part of Greece, and ten more on the excavations in the Athenian Agora, the rest of the text is actually shorter than before. Such an important site as Thermion has been removed; the plan of Eleusis is gone and without it no tourist will be able to understand one of the most exciting ancient sanctuaries. The plan of Athens is the same old one, though new street names are used in the text; the result is utter confusion.

There is considerable unevenness in the treatment of various sites. Certainly the French excavations get the best attention, probably because the French reports were most available to the author. But even here the material is not up to date. The report on Delos is of 1935 vintage, even cut somewhat, with no account of recent discoveries. Four pages of maps of Euboea give a de-

tailed picture of this little-frequented island, but the much-visited Peloponnesos is shown on one map of tiny scale, while for Thessaly, Macedonia and Thrace there are no maps at all. More serious is the silence on many new excavations. The thrilling discoveries at Pylos, begun as early as 1939, are nowhere mentioned. Nor is there any word of the resumption of excavations at Olympia in 1936 and the wonderful finds in the stadium there, of the work all through the 1930's in the cemetery at Athens, of new American excavations at Samothrace since 1938, of the recent work of Professor Wace at Mycenae, of excavations in the 1930's on Lemnos. The new museum at Mytilene, opened before the last war, is not known.

Even more shattering to one's confidence are the grossly incorrect instructions on travel. The traveler is sent over roads from Sparta to Kalamata, from Andritsa to Bassae, which do not yet exist, across a bridge over the Achelous that is not even planned. Typographical errors in the *Aperçu linguistique* will be most annoying to the unsuspecting tourist who tries this Greek. While the many

errors in the historical and archaeological sections will not cause immediate distress, they are still unforgivable. Like everything else, they show the lack of experienced surveillance. This is not the up to date guide to Greece which is so urgently needed; in many ways its predecessor of 1935 is still its superior.

As this review was being written (November 1954), the English edition of this guide appeared; with the 1955 publication date it is even farther behind, for the same deficiencies remain. A new and less detailed map of Athens has been inserted, bearing the new street names; a more recent plan of the Athenian Agora has been used. As a whole, however, the book stands as an insult to the English-speaking reader, for after saying in the preface: "We do not believe we have omitted anything that the British or American tourist visiting Greece would need to know," the editors have cut the maps from forty to twenty-one, reduced the plans from seventy-nine to fifty-three, and cut out two of the seven figures!

SAUL S. WEINBERG
American School of Classical Studies at Athens

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